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THE RUBBER AGE AND TIRE NEWS

APRIL 10, 1918 VOL. III. NO. 1

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THE
RUBBER AGE
AND TIRE NEWS

The Labor Factor in Production—I

By J. C. Long

With this issue THE RUBBER AGE AND TIRE NEWS *begins a series of articles dealing with the various industrial relations problems which are encountered in the rubber factories of the country, such as the questions of housing, factory restaurants, occupational diseases, bonus systems, health and accident insurance, athletics and other forms of recreation, factory hospitals, safety devices, vocational training, and women in industry. "The Factory Restaurant" and "Housing" will be the subjects of articles in early issues.*

I—Planning the Department

Many factories in the rubber industry have developed their industrial relations work on a large scale. They have built houses for their workers, provided athletic fields, erected club houses, devised profit-sharing systems, conducted hospitals, run restaurants, in fact traveled the whole gamut of those methods of stabilizing the labor force which are commonly classed under the heading of industrial relations.

It is the purpose of this series of articles to take up those methods one by one and to show what various of the big companies have done with them. As far as possible illustrations will be taken from the rubber world. Where, however, firms not in this industry have accomplished good re-

RECORD OF TURNOVER

COMPANY _____ DEPARTMENT _____ MONTH _____

FOREMAN _____ YEAR _____

Date	ENTRANCES: NEW (1 Experienced, 2 Learners, 3 Laborers, 4)	ENTRANCES: RE-EMPLOYED (5 Experienced, 6 Learners, 7 Laborers, 8)	ENTRANCES: TRANSFERRED (9 Physical Reasons, 10 Promoted, 11 Failed, 12 Departmental Fluctuation)	EXITS: LEFT OF OWN ACCORD — WORKING CONDITIONS (13 Wages, 14 Heavy, Wet or Dusty etc., 15 Ill Health, 16 Monotony, 17, 18)	LEFT OF OWN ACCORD — LOCATION (19 Family Moving, 20 Housing Conditions, 21)	LEFT OF OWN ACCORD — OTHER REASONS (22, 23, 24 Unknown)	DISCHARGED (25 Careless, 26 Lazy, 27 Incompetent, 28 Unreliable, 29 Liquor, 30 Trouble Breeder, 31 Insubordinate, 32 Misconduct, 33)	LAID-OFF (34 To Decrease Force, 35 Physical Reasons, 36 Temporarily Employed, 37)	TRANSFERRED (38 Physical Reasons, 39 Promoted, 40 Failed, 41 Departmental Fluctuation)	UNAVOIDABLE (42 Pensioned or Superannuated, 43 Marriage (Female) or Pregnancy; DEATH: 44 Exterior Causes, 45 Occupational Causes)	46 TOTAL ENTRANCES	47 TOTAL EXITS	Date
1													1
2													2
3													3
4													4
5													5
6													6
7													7
8													8
9													9
10													10
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28													28
29													29
30													30
31													31
TOT.													TOT.
%													%
TOT.													TOT.
%													%
TOT.													TOT.
%													%

To Compute Percentages DIVIDE TOTALS BY "DEPARTMENT AVERAGE for MONTH"

Number of Employees in Department on Last Day of Last Month ▸ _____

Last Day of this Month ▸ _____

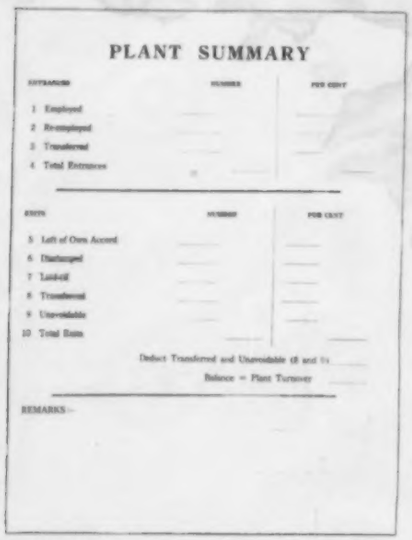
Department Average for Month ▸ _____

CHART FOR RECORDING LABOR TURNOVER

sults from which the rubber executives might profit, outside experience will be referred to.

The first and present article which talks of organization, of planning the department, will deal less with concrete examples than succeeding articles, because in the first place there are few of the big firms that are entirely satisfied with their methods of organization and would care to be quoted as models, and in the second place the planning of a department is as much a preparation of the mind as a creation of any type of structure.

What does the factory expect to get out of industrial relations work? That is the first question to decide in undertaking a departure of this sort. There are at least three large


PLANT SUMMARY

SITUATION	NUMBER	PER CENT
1 Employed		
2 Re-employed		
3 Transferred		
4 Total Entrances		

EXITS	NUMBER	PER CENT
5 Left of Own Accord		
6 Discharged		
7 Laid-off		
8 Transferred		
9 Unavoidable		
10 Total Exits		

Deduct Transferred and Unavoidable (8 and 9)

Balance = Plant Turnover

REMARKS:—

COVER OF LABOR TURNOVER FORM

factories in the rubber business which are curtailing their industrial relations work. Evidently the system has fallen down in some respect. What did the company directors expect of these experiments that did not materialize? What is to be the standard of success or failure?

One standard is whether or not the various industrial relations plans reduce labor turnover. It would be difficult to give a sweeping opinion on this subject. One reason is that inadequate statistics have been kept on labor turnover in the past. There is hardly a basis of comparison, and the war has introduced still further factors which make judgment unsound. This much can be said: Industrial relations activities have not reduced labor turnover as much as the directors in some of the larger plants expected. This does not mean that the idea is a failure; it means that human nature is inclined to be over optimistic about the success of plans. The era of personnel departments came in with a great flourish of trumpets, promising great results; and at present, with the needed curtailment because of the war, there is a reaction.

Productivity Increased

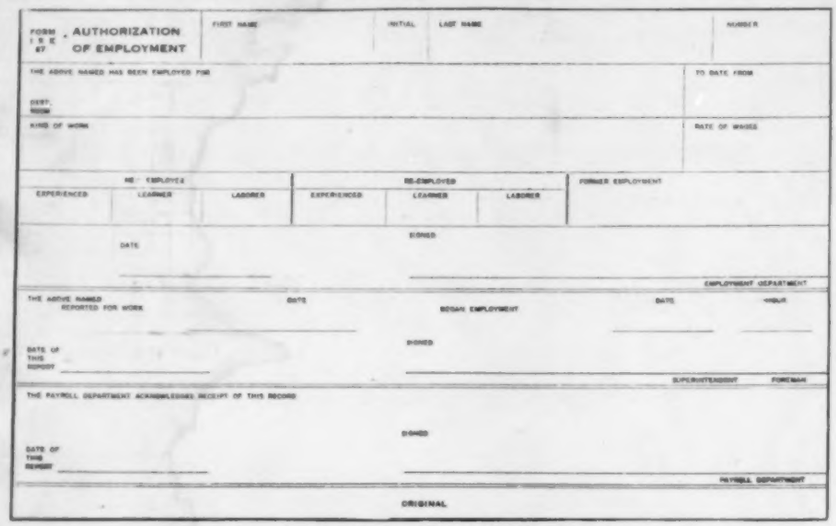
Another standard, and one by which the various plans for stabilizing the labor supply better justify themselves, is the question whether or not sickness is reduced, and productivity increased. Undoubtedly there is less ill-health and less absence under a well-developed labor department than under one which does not employ modern methods. Statistics on this point will be given under the articles touching upon occupational diseases, recreation, and the like.

Broadly speaking it may be said that the establishing of modern methods in a labor department is done for the purpose of getting a surplus of productivity out of the working force, either by reducing labor turnover, by eliminating absence of workers during illness, or by stimulating the activity of the individual worker, or by all three methods.

Labor Turnover Charts

The great complaint on the part of executives who have embarked on projects of this nature is that the results are intangible. In this connection it is therefore necessary to dwell on the importance of keeping records. No personal manager will be able to tell whether he has succeeded or failed, or to what degree his methods are working out, unless he has a comprehensive system for recording the facts. Fact-recording of this nature is a fairly recent departure, and one of the best developed methods for recording labor turnover is the chart prepared by the Boston Employment Managers' Association.

This blank is designed for use in the various departments of the fac-


FORM I S E 47 AUTHORIZATION OF EMPLOYMENT

FIRST NAME | INITIAL | LAST NAME | NUMBER

THE ABOVE NAMED HAS BEEN EMPLOYED FOR | TO DATE FROM

DEPT. ROOM

KIND OF WORK | RATE OF WAGES

NEW EMPLOYEE			RE-EMPLOYED			FORMER EMPLOYMENT
EXPERIENCED	LEARNER	LABORER	EXPERIENCED	LEARNER	LABORER	

DATE | SIGNED | EMPLOYMENT DEPARTMENT

THE ABOVE NAMED REPORTED FOR WORK | DATE | BEGAN EMPLOYMENT | DATE | HOUR

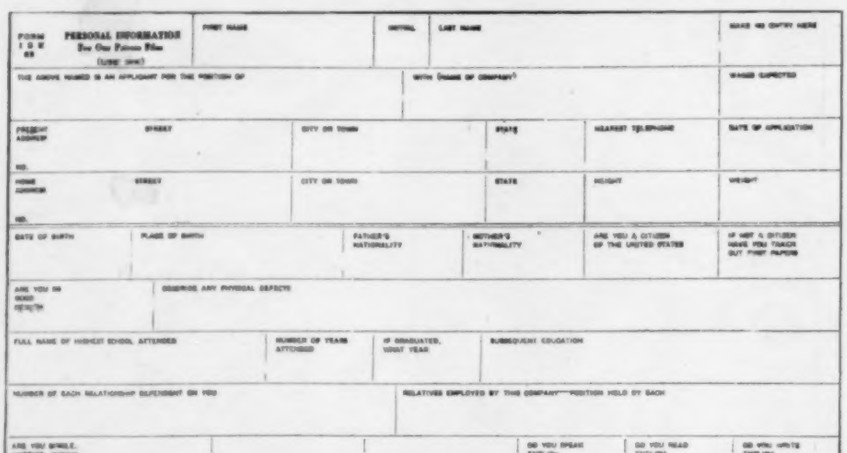
DATE OF THIS REPORT | SIGNED | SUPERINTENDENT | FOREMAN

THE PAYROLL DEPARTMENT ACKNOWLEDGES RECEIPT OF THIS RECORD

DATE OF THIS REPORT | SIGNED | PAYROLL DEPARTMENT

ORIGINAL

AUTHORIZATION OF EMPLOYMENT FORM


FORM I S E 48 PERSONAL INFORMATION For One Person Only (LEAVE BLANK) | FIRST NAME | INITIAL | LAST NAME | MAKE NO ENTRY HERE

THE ABOVE NAMED IS AN APPLICANT FOR THE POSITION OF | WITH (NAME OF COMPANY) | WAGES EXPECTED

PRESENT ADDRESS | NO. | STREET | CITY OR TOWN | STATE | NEAREST TELEPHONE | DATE OF APPLICATION

HOME ADDRESS | NO. | STREET | CITY OR TOWN | STATE | HEIGHT | WEIGHT

DATE OF BIRTH | PLACE OF BIRTH | FATHER'S NATIONALITY | MOTHER'S NATIONALITY | ARE YOU A CITIZEN OF THE UNITED STATES | IF NOT A CITIZEN HAVE YOU TAKEN OUT FIRST PAPERS

ARE YOU IN GOOD HEALTH | OBSERVE ANY PHYSICAL DEFECTS

FULL NAME OF HIGHEST SCHOOL ATTENDED | NUMBER OF YEARS ATTENDED | IF GRADUATED, WHAT YEAR | SUBSEQUENT EDUCATION

NUMBER OF EACH RELATIONSHIP DEPENDENT ON YOU | RELATIVES EMPLOYED BY THIS COMPANY—POSITION HELD BY EACH

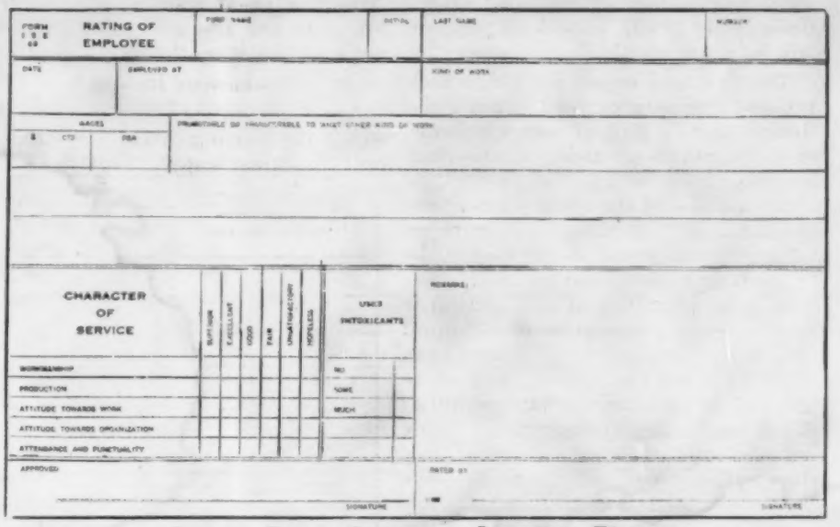
ARE YOU SINGLE, MARRIED, WIDOW, DIVORCED, OR SEPARATED | DO YOU SPEAK ENGLISH | DO YOU READ ENGLISH | DO YOU WRITE ENGLISH

FILL OUT BOTH SIDES OF THIS CARD.

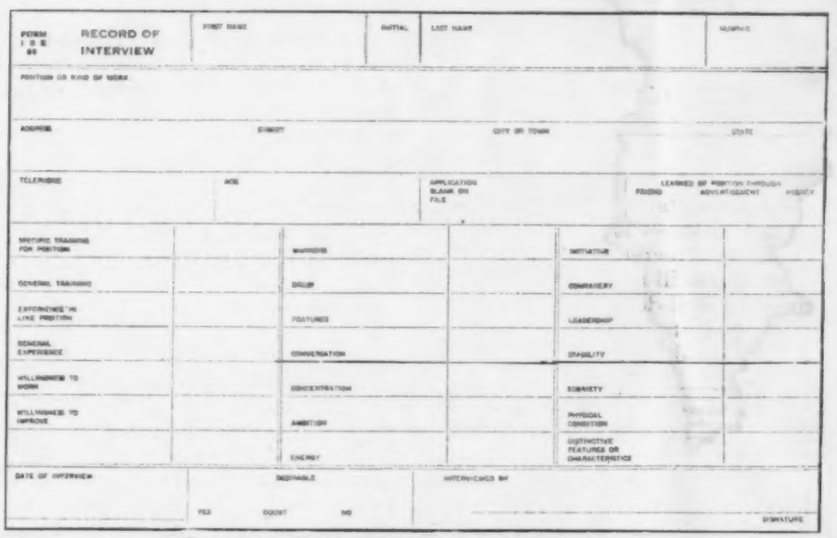
PERSONAL INFORMATION CARD FOR EMPLOYER'S FILES

tory, and in many organizations the departments file their blanks with the personnel manager. He in turn makes out a summary blank which shows the results of the departments. The chart referred to covers the period of a month and is divided into two parts, one part recording additions to the working force, and the other part indicating exits from the force.

The division which refers to the newcomers is divided into three classes, the entirely new men, those who are re-employed, and those who have been transferred from other departments. The new workers are registered on the chart in three classifications: as to whether they are skilled, learners, or permanently unskilled laborers. The re-employed are similarly classified; and the transferred men are registered as to whether they were moved for physical reasons, because of department fluctuation, because of promotion or demotion.



CARD FOR RATING PROGRESS OF INDIVIDUAL WORKMAN



BLANK FOR RECORDING APPLICANT'S QUALIFICATIONS

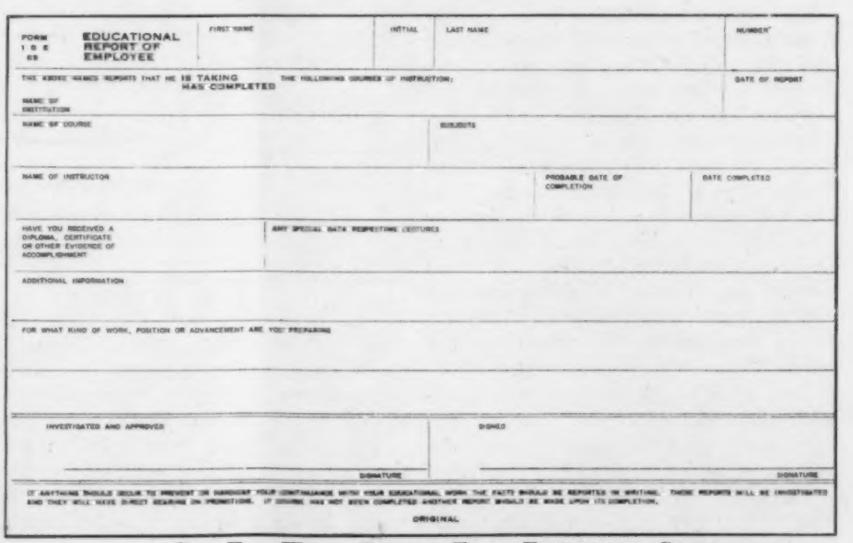
The "exit" section of this chart is of greatest interest to the personnel manager, for there are shown the difficulties with which he has to cope. This section is divided into those leaving of their own accord, those who were discharged, the men who were laid-off, those transferred, and those whose labors were unavoidably cut short.

In the columns for the men who left of their own accord there is space for recording which left because of higher wages elsewhere, because of heavy, wet, or dusty work, because of monotony, because of ill-health. These are grouped as exits due to working conditions. Under those who left because the location of the plant was unsuitable are recorded the men whose families moved away, and those who could not find housing conditions that were satisfactory. There are several columns left for indicating miscellaneous reasons for leaving.

The reasons leading to the discharge of men are registered as: careless, lazy, incompetent, unreliable, liquor, trouble-breeder, insubordinate, misconduct, and a column for miscellaneous. The laid off men are recorded as discharged to decrease the force, because of physical reasons, because they were temporarily employed, or whatever the case may be.

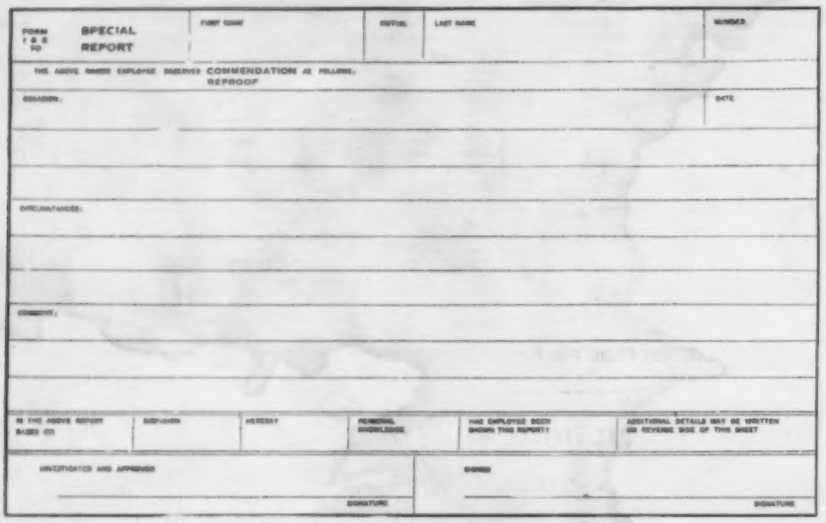
Another set of columns on the record of labor turnover chart makes it possible to record in detail the reasons for which employees are transferred. This set of columns shows whether the men who were transferred were changed for physical reasons, for promotion, inadequacy in their previous department, or because of departmental fluctuation.

The unavoidable cases are those in which labor is cut off due to death, marriage or pregnancy on the part of women workers, illness, poison or superannuation.



CARD USED WHERE EMPLOYE TAKES EDUCATIONAL COURSE

The discussion of these departmental records has been gone into to illustrate the number of factors in regard to the labor supply which the personnel manager must keep informed on. It may be that the Boston charts do not serve for some factories. It may be that the manager may be able to work out a more adequate system for his own needs, but his system should include at least the points mentioned.



CARD FOR REPORTING SPECIAL ABILITY OF EMPLOYE

These charts show the daily fluctuation in labor for any given month, in any given department, and the summary chart shows the labor curve for the entire plant.

Individual Records

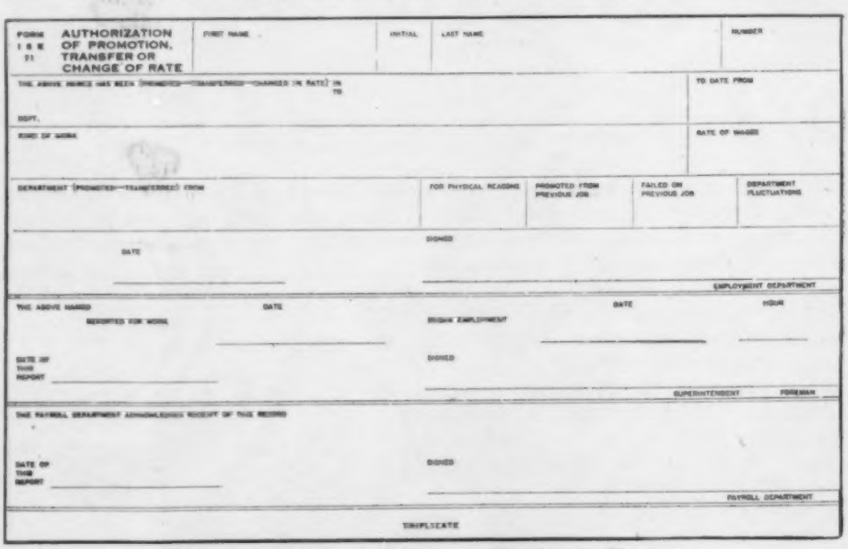
In addition to the group charts of this nature the personnel department must have individual records of the men as they are employed. Every factory does this to a greater or lesser extent, of course. But the variations in this line are almost limitless. Again it is a temptation to quote the Boston Employment Managers' Association. This is a group which was formed for the express purpose of keeping its members informed on the latest developments of handling employment work. The organization includes the following members from the rubber trade: American Rubber Co., Boston Rubber Shoe Co., Fisk Rubber Co., Hood Rubber Co., and Revere Rubber Co. The Boston body has prepared a series of eight blanks which are useful in recording the personal history of each employe.

The first blank records the home address, height, weight, nationality, education, marital state if any, dependents, and health of the applicant for a job. It also shows whether the worker has any relatives in the plant. On the back of this is recorded the job and salary history of the applicant with references.

The second form gives a record of the initial interview, stating how the applicant learned of the job, what was his specific training for the position, what his general training, the same with regard to practical experience, his willingness to work, willingness to improve, manners, dress, features, conversation, power of concentration, ambition, energy, initiative, comradery, leadership, stability, sobriety, and physical condition. One caution with regard to this blank is not to take it too seriously. Opinions passed on many of the above topics during a first interview would, of course, be quite superficial.

The next blank is simply an authorization of employment, giving the name of employe, department to which he is assigned, type of work, and briefly summarized history. The fourth form is a rating card, which should be frequently revised, showing the current wage of the worker, his adaptability to other forms of work, the grade of his service in respect to workmanship, production, attitude towards work, attitude towards the organization, and attendance and punctuality. A fifth form for recording the interest of the worker in his job is in the shape of an educational report. This shows what courses he is taking or has taken, the name of the instructor, the date of completion of the work, and the diploma, rank, or other evidence of accomplishment that it may lead to. It indicates also what kind of work, position or advancement the employe is preparing for. The worker is asked to keep in touch with his department so that this form may be kept up to date, as it is used as a basis for promotion.

One of the most elastic forms is the special report card for circumstances where unique commendation or reproof is called for. On this is recorded the incident which occasioned the report, the circumstances surrounding it, comment on it by the department head, and the sources of evidence. The seventh form is an authorization of promotion, transfer, or change of rate. This indicates the causes for the change and carries the *visé* of the employment and payroll departments. The eighth form which records the leaving of the employe registers whether he left of his own accord, was discharged, laid-off, or unavoidably eliminated, and gives more specific information under one of these headings. It also reviews the character of his service while with the company, states the amount of pay that he should receive, and states whether or not re-employ-

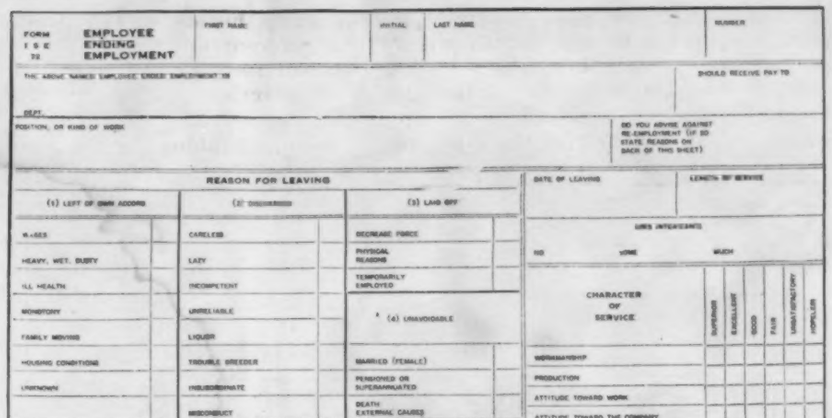


FORM FOR RECORDING CHANGE IN EMPLOYE'S STATUS

ment is considered to be advisable.

These eight general forms are a good working basis for general statistics on the comings and goings of the labor force. Every personnel manager will find that he is helped by the keeping of some such records. Each division of the personnel work should also have its records. The hospital, for instance, will have cards for each patient. It will also have general charts showing the prevalence of various types of disease and their reduction or augmentation over a period of years. These details will be discussed in subsequent articles on the various methods of personnel management.

The factory restaurant and housing problems will be taken up and discussed in future installments of this series of articles on industrial relations methods.



RECORD CARD FOR SHOWING WHY MEN LEAVE EMPLOYMENT

The World's Consumption of Rubber

The National City Bank of New York has compiled some interesting figures on the subject of the rubber consumption of the world and the United States. The figures show that in the United States in 1917 the consumption of rubber was fifty per cent greater than in 1916, double that of 1915, three times as much as in 1914, and six times as much as a decade ago. The rapid increase in world production has hardly sufficed to keep pace with the demands of American manufacturers.

During the last decade, world production increase from 69,000 tons in 1907 to 182,000 tons in 1917. World production quadrupled in the ten-year period and United States consumption sextupled in the same time.

In 1907 the United States took 44 per cent of the world's output and in 1917 71 per cent. A billion dollars of American money have been sent to other parts of the world in the decade ending with 1917 for the purchase of the 700,000 tons of rubber brought into the United States in that period, in part from Brazil, but chiefly in recent years from the Orient. The statement shows that the world's output of "plantation" rubber has increased from 1000 tons in 1907 to 204,000 tons in 1917, while meantime the "wild" rubber output of the world decreased some 68,000 tons in 1907 to 53,000 tons in 1917. It was only a decade ago that the rubber plantations established in the Orient by European capital about 1900 came into "bearing" condition, the world's output of plantation rubber having been in 1900 but four tons; in 1905, 145 tons; 1907, 1000 tons, and from that on a very rapid increase, showing for 1917 204,348 tons, according to the latest estimates of the highest world authorities.

Increase in U. S. Imports from Orient

Meantime Brazilian rubber, produced from forests, showed little change in the quantity produced, the production in 1907 having been 38,000 tons and in 1917 39,370 tons, according to the estimate of the highest authorities. The other producers of forest rubber, chiefly Central America, Mexico and the Congo Valley, have reduced their output from about 30,000 tons in 1907 to 13,000 tons in 1917, leaving the United States more and more dependent upon the plantations of the Orient. As a result the importation into the United States of plantation rubber from the Orient has grown from about 33,000 tons in 1914 to approximately 150,000 tons in 1917, although we have in the meantime continued to take a very large proportion of the rubber output of our South and Central American neighbors. Plantation rubber now forms about 80 per cent of the world's rubber output.

Even the very rapid increase in world production of rubber from 69,000 tons in 1907 to 257,000 in 1917 has not kept pace with the demand of the United States, for while our imports of rubber in 1907 form 41 per cent of the world's output, they were in 1912 51 per cent, in 1916 68 per cent and in 1917 71 per cent of the entire rubber product of the world.

Big U. S. Rubber Imports in 1917

Rubber imports into the United States in the calendar year 1917 were the largest in the history of that trade, both in quantity and value, the quantity imported for consumption having been approximately 182,000 tons, against 117,000 tons in 1916, the former high record year, and the value in 1917 $233,000,000, against $160,000,000 in 1916. Meantime our exportation of manufactures of rubber has grown from $7,000,000 a decade ago to $35,000,000 in 1917, while we also re-exported in crude form nearly $6,000,000 worth of the rubber imported in 1917.

Practically all of the plantation rubber produced in the world is thus far grown in the Orient. The plantations occupy about 2,000,000 acres, of which approximately one million are in the Malayan Peninsula, a half million in the Dutch East Indies and the remainder distributed through Ceylon, India, Burma, Cochin-China and Borneo, and a comparatively small acreage in the Philippine Islands, where experimental work has given reason to believe that the rubber producing possibilities are very great. The amount of capital invested in the rubber plantations of the Orient is estimated at approximately $300,000,000, chiefly British, except that in the Dutch East Indies, which is largely from the Netherlands.

Takes Over Egyptian Cotton Crop

British and Egyptian Governments, acting in concert, have adopted measures for acquiring the Egyptian cotton crop as from Aug. 1, 1918. A Cotton Control Commission has been appointed for this purpose, to be assisted by an advisory board representing cotton growers, banks and export houses. The commission will be prepared from Aug. 1 to purchase cotton, both next season's crop and the residue of the present crop.

Technical Course in Rubber Manufacture*

By H. E. Simmons, M.S.

Professor of Chemistry in the Municipal University of Akron

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SECTION XIX

Preparation of Crude Rubber for Manufacturing

The many processes through which crude rubber must pass before it is turned out into manufactured articles introduce many possibilities of its being ruined, or if not ruined, at least badly injured.

UP-RIVER FINE PARA IN FACTORY STORAGE

Just recall for a moment the steps which we have already mentioned, through which this material has passed; also the different persons who have been directly responsible for its real value. Is it not to be marveled at that we get as good results as we do? Of course the development of plantations under the supervision of trained men has greatly improved the treatment of the rubber in the earlier stages of its manufacture. But even today think for a moment of the conditions under which the native of Africa obtains and prepares his rubber from the vines of that country; then think of the South American rubber, which is better; and last of all look at the plantation rubber which is best of all. The manufacturer of today obtains his rubber supply from all sources, ranging from that produced in the primitive method of the barbarian and tinctured with the little tricks of fraudulency and deceit which so called civilization has taught him, up to that produced by the more or less scientific method for producing uniform crude rubber.

In this article we shall follow the rubber after it arrives at the factory and we see it in the receiving room, on through the processes of cleansing, drying, milling, calendering, and then leave it ready to be made up into whatever article its particular compound has been designed for.

The Receiving Room

In the receiving room, we find the many varieties of rubber coming from the many different sources, from many different species of plants, prepared in many different ways, put up in many different forms and differently stored. What an assortment we may see! Not so many today, however, as formerly. All these sorts must be put through the general process and each finds its own proper place in the finished article to which it is best adapted. We shall see therefore all the different shipments each carrying its own number which number identifies the life history of that particular lot. We will find that each lot is kept separate until it has entered into some compound.

At certain times it may become necessary, after receiving large shipments of rubber, to store it for some length of time. This depends a great deal upon the market conditions and also the supply available. When the price is very low, there is a tendency toward large buying which means that it will be stored upon arrival. During certain seasons of the year in normal times, we find more rubber stored than in certain others. But whether stored or taken from the receiving room directly, the first gen-

SOAKING TANK

* This course was commenced in the July 10, 1917, issue of THE RUBBER AGE AND TIRE NEWS and will be complete in 28 issues.

eral treatment is the same, namely that of cleansing or washing. The grade of rubber determines how and to what extent this process must be carried out. The time was when all rubber brought into the factory was washed, but today the greater part of the plantation rubber is not washed, that having already been satisfactorily done on the plantation itself. A very small portion of the plantation rubber is washed today in the factory, and only when it is used for certain special articles where the highest degree of cleanliness is required.

Washing

The crude rubbers when taken into the wash room are treated, according to the form in which they come, in different ways. For instance, if the individual pieces are large, they may be cut into smaller ones. The rubber is then soaked in large tanks, which contain warm water until it is softened. From these tanks, the rubber is taken to a machine known as a "cracker." This consists of two corrugated rolls turning toward each other at different rates of speed. Over these there is allowed to flow warm or cold water as is desired, while the rubber is passed between the rolls. Here the rubber is first torn into small pieces by means of a more or less grinding action, and for that reason it comes through in a form which is not adherent. In fact it may often be returned through the mill by the use of a shovel. Some kinds of rubber will remain adherent in the form of a thick heavy crepe. Fine Para is of this variety.

In the next step we find a varying practice. In some factories, this rubber, after passing a few times through the cracker, is passed to the adjoining machine called a "washer." It is like a cracker in design but the corrugations of the rolls are much smaller, and the variation in speed of the rolls may not be as great. Here the rubber is washed and assumes a thick crepe form. From here it is given to the third and last machine of similar design with practically smooth rolls, which finishes the washing and leaves it in a thin sheet form.

In some factories the rubber goes through the cracker and is then finished on but one additional machine. That, however, requires the constant changing of the distance between the rolls, and introduces, therefore, the possibility of a variation in thickness in the finished sheets.

Some forms of rubber, after going through the "cracker," are washed in beating machines. These are large oval shaped tanks with a partition running part way through the middle and parallel to their long axis. This partition allows the passage of the charge of the tank past both of its ends. On one side of the tank is placed a rotating cylinder over an elevation in the floor of the tank. When the rubber is placed in this machine and the cylinder rotated, the whole mass will circulate and pass between this drum and the floor thus producing a scrubbing action upon the rubber. This form of washing is used with rubbers which do not adhere well into sheet form.

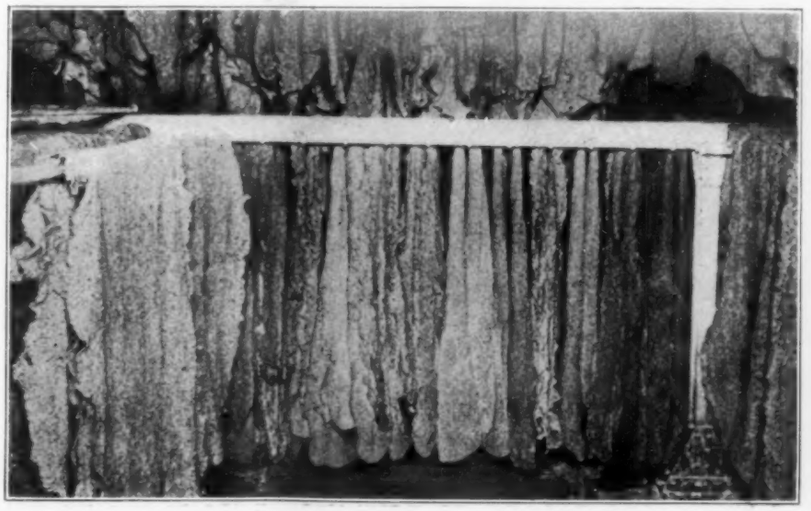
Special washers have been designed for washing gutta percha and balata. These are washed in hot water in which they become soft. The machines used are automatic to the extent that after the material is added and the machines closed, a kneading process under hot water takes place, and the sand, bark and leaves are removed. When the resins are removed from this washer they are sheeted in a smooth surfaced mill.

The length of time consumed in washing should be as short as possible. The mechanical working of rubber either on a washer or mill tends to depolymerize it and thus reduces its nerve.

WASHING AND SHEETING RUBBER

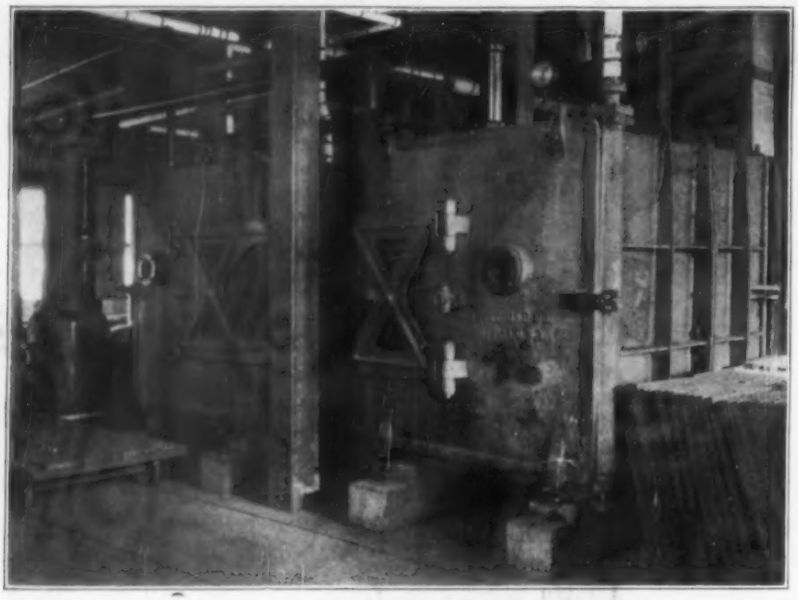
Drying

The next step is the drying of the rubber. This is effected in several different ways. Early in the industry, the sheets of rubber were hung in large rooms which were kept rather warm and the rubber gradually dried out. This required perhaps thirty days. The drying room capacity then had to be very large; in fact the minimum would be thirty times the space used each day if it required thirty days to dry out. This process was slow and it required a large amount of space. To hasten this process, therefore, two principles recommended themselves. First, the causing of the air in the drying rooms to



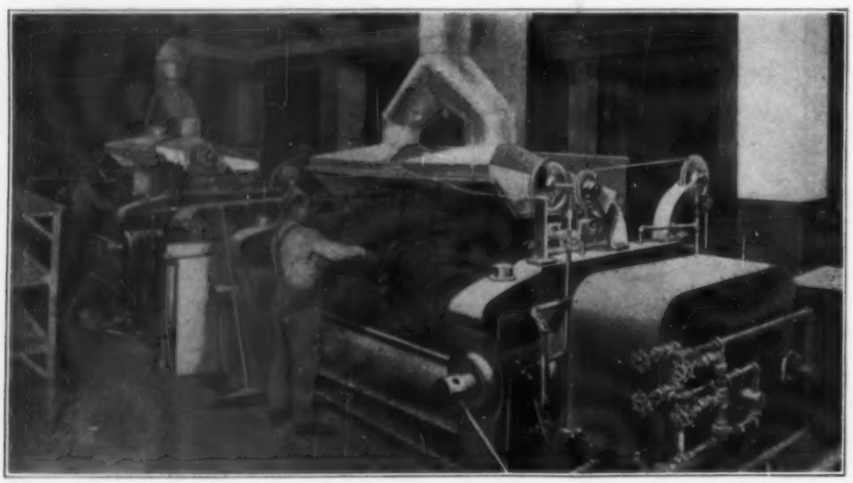
STOCK DRYING ROOM

change. As the air becomes saturated with moisture, then evaporation takes place very slowly, so by forced ventilation the length of time to dry the rubber was reduced, and therefore the capacity required was diminished. Then the maintaining of these rooms at a uniformly moderate temperature aided materially in the drying process. Where this method is used the rubber is hung over racks. The actual time required to dry the rubber depends also on the thickness of the sheets. As mentioned, it is a big advantage to have the sheets of uniform thickness so that they will all be dried at the same time; therefore the advantage of having the washers set so that the last one through which the rubber passes need not be changed. Some forms of rubber are very soft and in a warm room will so soften that they will not support their own weight when hanging from the racks. To overcome this difficulty a different practice is here resorted to.



Vacuum Dryer

The principle of removing the water more rapidly from the rubber by placing it in a tight chamber heated with steam coils and from which the air may be removed, is resorted to. In other words, the rubber is dried in a partial vacuum. The rubber is placed upon trays which slip into these vacuum driers. Here the rubber is dried in about three hours. This method has received considerable criticism upon the ground that it impairs the nerve of the rubber, and some have contended that it could be used only with certain grades of rubber. But today more rubber is vacuum dried than ever before, thus arguing that the practice is here to stay.



Close View of Mixing Mills

Another process of drying which has been used in cases of emergencies is drying upon the hot rolls of mills; for instance, if the drying capacity of a factory is inadequate to supply the required amount of dry rubber to the compound room. In such cases the partially dried sheets are removed from the drying racks and taken into the mill room. Here they are placed upon large hot rolls and the moisture in the rubber is converted into vapor and as such is removed from the rubber. Being an emergency measure, this is resorted to very seldom.

When the rubber hangs in drying rooms, it has been found best to have the rooms darkened as the light seems not only to discolor the rubber but also to break it down or depolymerize it.

From the drying process, the rubber goes to the compound room unless it has been vacuum dried and in that case, it is generally stored for a short time.

Mixing Mills

We shall not discuss the process of compounding here as that will be dealt with in a future section, so we next find the rubber weighed out in batches with different fillers ready for the process of milling, or incorporating the fillers into the rubber uniformly. This is done upon mills of varying sizes. The rolls are smooth, and rotate at different rates of speed. Through the axes of these rolls hot and cold water may be turned into the rolls either to warm them up or to cool them as the working of the rubber causes the rolls to become very hot.

The rubber in the batch is first put upon the mill and worked until it is " broken down " or in other words becomes soft and flows evenly over the roll and between the two rolls. When this stage is reached, which is easily told by the operator, the fillers are gradually added to the rubber and these are incorporated into the rubber by returning it through the mill over and over again.

Several things must be observed in milling. As mentioned in connection with washing, the mechanical working of the rubber tends to depolymerize it, and especially is this true where the temperature is above normal. So upon the mill this effect is very marked. Therefore it is desirable to mill the rubber as rapidly as possible and yet it must be worked long enough to make it an even or homogeneous mass. The roll of the mill next to the operator is kept a little warmer than the other and rotates at a slower speed and for these reasons the rubber, while being worked, will remain upon this roll. Here great care must be taken with

certain compounds especially, for at the temperature we have here, vulcanization may take place to a certain extent. The temperature of both rolls in a mill is regulated by turning on the hot or cold water and the only way the mill man has of judging the correct temperature is by the sense of touch. " If it feels right " is his only guide. There should be some way of automatically controlling this temperature by means of a thermostat. Some experimental work might be done along this line.

Taken to the Calender Room

The compounded stocks from the mill room are now allowed to cool to age. Then they are taken to the calender room.

Here the stock is put into a " warming up mill " of the same type as is found in the mill room, the purpose being to soften up the stock again so that it will pass smoothly and evenly through the calender. The calender is used to convert the rubber dough into sheet form of uniform thickness from which the majority of rubber articles are made.

Most calenders are of the three roll type. The rubber coming from the warming up mill is fed between the two upper rolls, passes around the middle one, then between it and the lower roll, and is removed on the opposite side upon a coarse cloth known as a " liner," which prevents the rubber surfaces from adhering together. For sheeting rubber the rolls of the calender are run at equal rates of speed.

Where friction is made, the calender rolls run at differential speeds; this gives the greatest spreading effect.

The stock, after leaving the calender is ready to be made up into the articles for which it has been compounded.

To follow the rubber from this point would mean to outline the manufacture of every separate article placed upon the market. We have in this section simply given a general idea as to the handling of rubber in its common processes before it goes into its specialized uses. We have, however, only mentioned the plantation rubber. The great bulk of this rubber without being washed is brought to the compound room, put into batches, and taken directly to the mill room. On account of its previous treatment, it may enter the manufacturing process without being washed and dried in the factory.

Information Exchange

Swing Bucket Cart and Buckets

Inquiry No. 24.—Could you advise us where we could obtain a bucket swing cart, with galvanized steel tanks, about forty gallons capacity. Should have spout cover with swing wooden wheels, 2x2½ steels tires. Also where we can obtain galvanized buckets, 15 inches, capacity two gallons.

Answer.—You can obtain swing bucket cart such as you describe, also galvanized buckets, from the B. B. Neal Hardware Co., Inc., 117-119 Leonard Street, New York City.

Wants Rubber Sponge in Sheets

Inquiry No. 25.—Kindly tell us where we can obtain rubber sponge in sheets. We want to use it in 20-inch squares about one inch thick.

Answer.—You can obtain rubber sponge in sheets from the B. F. Goodrich Co., 1790 Broadway, New York City.

A Fire Adjustment Problem

Inquiry No. 26.—May we, through your valued paper, ask help in deciding a dispute between tire adjusters, as to how to give a customer an equitable and honest adjustment on a defective tire which has run 3,000 miles.

The customer in question is tired using our " B " tread and wants to give our " C " tread a fair test. Our " B " tire in the size the customer has been using lists $39.85, while our " C " tread casing of the same size lists $30.05.

The customer brings us his " B " tread casing, says it has given 3,000 miles of good service, but wants an adjustment and our " C " tread tire.

Please inform us as to how we should figure what this customer should pay (1) for a new "B" tread, (2) for a new " C " tread tire. Please take into account the fact that our " C " tread tire is guaranteed 4000 miles and tell us what the customer should be charged for the " C " tread tire in making the adjustment.

We believe the answer you give will be final and will settle many unpleasant arguments that poor tire adjusters get into.

Answer.—With the belief that your problem could best be solved by taking the advice of known experts in the tire adjustments, we referred it to several of the best known men in this field and are pleased to be able to publish the following opinions. We will publish others as we receive them:

OPINION OF F. R. GOODELL.—While there are undoubtedly several different ways to figure an adjustment, there can of course be but one basis for the "equitable and honest" adjustment referred to above.

The answer to this problem seems to hinge on the integrity of the mileage warrant and the consumers' printed list. If there is any real excuse for either of these features—which are so often observed in the breach, rather than otherwise, it is because they afford a gauge by which tire value can be reckoned and any deviation from it properly adjusted.

We will have to assume here that the consumer bought the tire at list price—for if he didn't he *ought to have.* If he obtained an inside discount on the purchase it is a confidential matter between himself and the dealer and does not affect the adjustment. For our purposes then the owner of the defective " B " tread tire actually paid $39.85 for it, and we will start in by finding out the amount due him on this transaction before we consider his purchase of a " C " tread casing. The mileage guarantee on the " B " tread tire is not given, but considering the marked increase in price over the 4,000 mile tire at $30.05 it can hardly be less than 6,000 miles.

This being correct, the consumer would be entitled to a new " B " tread tire at half the list price or $19.92, since he received only half the warranted mileage and the tire is admitted to be defective by the adjuster. Let us assume then that the consumer accepts and pays for a new " B " tread tire at the reduced figure, but before unwrapping it he has a change of heart and decides to take a whirl at the cheaper casing. The matter then becomes a simple exchange in which the consumer would be credited $39.85 on his " B " tread and charged $30.05 on a " C " tread leaving a balance in his favor of $9.80. This would be the same as saying that he got the new " C " tread tire at an adjustment price of $10.12.

OPINION OF W. N. JACOBUS.—Your question states that the " C " tire is guaranteed for 4,000 miles. So we will assume that the adjustment on the " B " tires are worked out on the same basis.

If the " B " tire went bad after 3,000 miles of service, customer should pay three-fourths or 75 per cent of its list which in this instance represents 75 per cent of $39.85, or $29.89.

Were the customer to request a " C " type of tire which lists for $30.05, the difference between the two lists should be deducted from the adjustment price offered for the " B " type making the adjustment price of the " C " tire $20.09.

This method is the only proper way to reach a decision on such a transaction because it proves itself.

In the first place when you offer a new " B " type of tire in exchange for the same type returned you offer your customer an allowance or credit of $9.96. This credit deducted from the list of the " C " type proves that $20.09 is the proper adjustment price for the less expensive tire.

" B " tire cost $39.85.
Adjustment on 3,000 miles basis, $29.89.
Credit for unearned mileage, $9.96.
Cost of " C " tire, $30.05.
Less credit allowance, $9.06.
Replacement price for " C " tires, $20.09.

Rubber Factory for Fort Wayne

The Fort Wayne Tire & Rubber Co., Peoples' Trust and Savings Building, Fort Wayne, nd., incorporated with $500,000 capital stock, plans to build a factory in Fort Wayne. E. L. Kraft is president of the company.

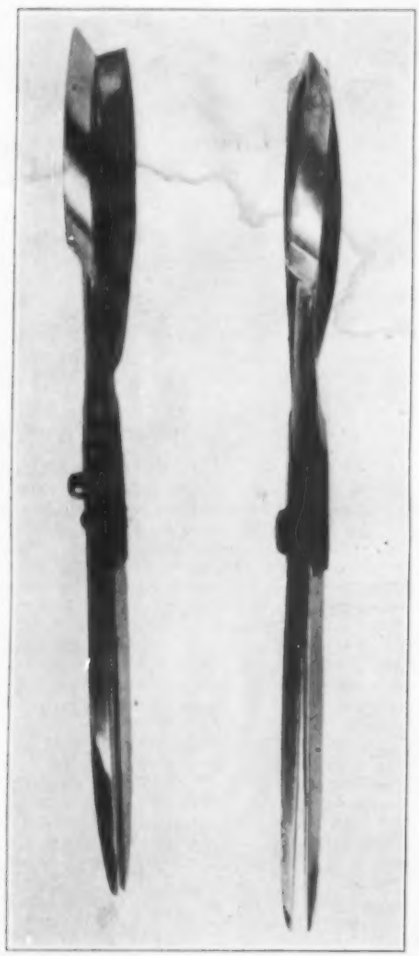
Enlarging Vulcanizing Plant

The Pomeroy Motor Co., 201 Water Street, Northfield, Minn., has awarded the contract for a one-story 24 x 24-ft. addition to its vulcanizing plant, which is in charge of A. La Sanze.

The Story of the Magic Spring

In a small New England town, snugly set in the Connecticut hills, there's a cheery-looking house, painted a golden yellow and protected by towering maples whose branches cast their shadows on the sweeping lawn.

The passerby knows it is not merely a house, but a home, and the name "Sunnyside" over the door fairly breathes a welcoming hospitality. For many years this comfortable



dwelling has been owned and occupied by a happy couple whose circle of friends is truly limitless.

Back in the '90s "Sunnyside" was the scene of an incident which, now that the world knows of it, stands out as a conspicuous landmark in the history of the manufacture of shears and scissors. The "head of the house," now past middle age, with twinkling eyes shining above a snowy-white beard, might have been seen seated in his study on that summer day, twenty odd years ago, preparing his weekly sermon; for he was the village preacher, known and loved by the entire countryside. He had, perhaps, developed his text through "thirdly and fourthly," and reached for another piece of manuscript paper on which to continue his work, and found it had a ragged edge quite offensive to the proprietor of "Sunnyside."

He picked up his huge shears and attempted to cut. The shears were dull and loose at the joint, and, though he exerted great pressure against the handles and cramped his hand to make the cutting clean, the obstinate blade merely chewed the paper. The weather was warm, and with each attempt to cut, the operator became warmer.

Exasperation led to inspiration. With this characteristic earnestness of purpose, the clergyman studied to overcome the effect of the worn, loosened joint, and there conceived the momentous idea of the "Shears with the Spring." With the aid of the village blacksmith, he fashioned a device consisting of a coiled spring made of fine piano wire sunk in a tiny hollow thimble between the blades of his shears just above the screw at the joint. The principle was so simple yet so effective that the time-worn shears actually cut better than the day they were made, and equally well with either hand. Such was the creation of the Perfection Spring—a real contribution to the noteworthy achievements of practical New England.

Despite the fact that he had made the first radical improvement on shears and scissors in a century, the inventor did not turn to manufacturing, but continued to mold the thoughts and ideals of the community he served. It's true that he collected every pair of shears and scissors in use and disuse about "Sunnyside" from his wife's small embroidery scissors to his huge pruning shears, and equipped them with the magic spring; but further than this little was done to perpetuate the spring device.

Having completed forty years of faithful service, the preacher of "Sunnyside" withdrew from the active leadership of the village church and settled into a life of retirement. Although he realized the unlimited possibilities of the spring-mounted shears, his natural modesty forbade the personal presentation of his invention to the world.

Such a long-needed improvement, however, could not perish unknown, and finally urged by his friends, the inventor consented to the formation of the Perfection Shear Co., to manufacture quality shears and scissors equipped with the "Perfection Spring." From a small organization with extremely limited distribution, the Perfection Shear Co. has grown rapidly, and today thousands of "Perfection" shears and scissors are in use throughout the world; many of the leading rubber factories use them, and have found that quality of material being equal, the spring-mounted shears last many times longer than the ordinary kind.

This is the story of the birth and growth of Perfection shears and scissors, now so well known and generally used in rubber factories. It might be added that the enthusiastic reception accorded these shears has added to the joys of the retired minister and his wife, and the townspeople take a just pride in pointing out "Sunnyside," the birthplace of the Perfection spring, to the strangers who may be passing through their attractive village.

Book Review

CHEMICAL DISCOVERY AND INVENTION IN THE TWENTIETH CENTURY. By Sir William A. Tilden. E. P. Dutton & Co., publishers, 681 Fifth avenue, New York City. (481 pages, 8vo, illustrated, cloth bound. $3.50 net.)

The late Sir William A. Tilden, author of this work, was one of the most distinguished chemists of Great Britain. He was Professor Emeritus of Chemistry in the Imperial College of Science and Technology.

In this volume his aim was to give an account of the momentous conquests of matter by human knowledge in the past quarter of a century. He divides his book into four sections. The first section deals with laboratory equipment and special apparatus of recent invention, vacuum pumps, electric furnaces, and chemical devices used in trade processes, such as dyeing and brewing. The second section deals with modern chemical theories and discoveries such as Thompson's discovery as to the electrical discharge in gases, the disintegration and transmutation of elements, the discovery of Rayleight and Ramsay and others of the new elements in the air, the discovery of radium by the Curies, electrolysis, catalysis, stereo. chemistry and valency, colloids, the theories of the architecture of molecules, etc. The third section deals with modern application of chemistry, such as the processes for obtaining oxygen and nitrogen from air, the making of incandescent gas mantles, modern drugs, synthetic purfumes and essential oils, cellulose products and explosives, artificial nitrates, etc. The fourth section gives a review of the concurrent progress in organic chemistry and of the discoveries which have been made with regard to saccharine, proteins, hydro-carbons, enzyms and ferments.

The volume is profusely illustrated with eleven portraits of prominent chemists and about 150 half-tone illustrations, and forms a most valuable summing up of the recent progress in chemical science.

One chapter is devoted entirely to rubber, its origin, methods of collecting and preparing it, its composition and constitution; rubber substitutes, reclaimed rubber, synthetic rubber and its history.

Sir William A. Tilden's "Chemical Discovery and Invention in the Twentieth Century" can be read with benefit by all interested in chemistry in general and chemistry as applied to rubber in particular.

W. D. MOFFAT
PRESIDENT

W. I. SEAMAN
TREASURER

ROBERT BROWN
SECRETARY

THE RUBBER AGE AND TIRE NEWS

H. M. WILLIAMS
EDITOR

W. M. MILNER
ASSOCIATE EDITOR

GEORGE NEWBOLD
BUSINESS MANAGER

H. B. SEYMOUR
ADVERTISING MANAGER

Vol. III — April 10, 1918 — No. 1

THE Third Liberty Loan is here at the beginning of our second year of war. It offers an opportunity for every American to become a partner in the greatest business proposition in the world—the United States of America.

The amount asked is less than the amount subscribed in the first or second Liberty Loans. The interest rate of four and a quarter per cent is higher, and all existing issues of Liberty bonds are convertible into the new four and a quarter per cent bonds.

The new bond and the old bonds, if converted, will be available at par in payment of federal inheritance taxes—a provision that is likely to secure unusually large subscriptions from wealthy persons.

This Third Liberty bond issue provides for a five per cent sinking fund, calculated to operate during the war, to afford steady and strong support to the market for the bonds, a plan which has been followed with advantage in government financing in Great Britain.

There can be no doubt that this Third Liberty Loan will be a success. The only question is how big the success is going to be. And there is one thing only that can determine the volume of that success;—that is, the extent to which individual effort is exerted.

Banks may subscribe handsomely, corporations may contribute generously, but the test rests in how far the average citizen of moderate means makes this Third Liberty Loan his personal affair; not only by subscribing to the limit of his ability, but by giving his time and talents to the cause.

Every true American has good reasons to give this Third Liberty Loan campaign his individual attention.

Our boys are in France, neither for adventure, nor for gain, but to fight in order that the principle of democracy may not die.

Our boys are in France to prevent a nation that sees only selfish ends, that ignores treaties, that resorts to the use of barbarous and forbidden methods of warfare, that ruthlessly destroys private property, that dishonors women and children, that enslaves populations, from becoming a dominating power.

Our boys are in France to fight and to die that this base abuse of power may be checked for all time; that the blasphemy of autocratic partnership with God be shown in its true light; that we need never know the agonies of devastated Belgium and northern France.

Our boys are in France and our bonds must keep them there until their work is done. Bonds and yet more bonds must be sold, and we must buy—and—buy—and—buy—and—buy. It is a plain duty—many of us can do no more.

Our boys are in France; they have given up home ties, comforts, business. They are sacrificing all that life holds dear—even life itself.

The rubber industry can be counted on to do its full part in bearing the war of righteousness.

Rubber Men and the Liberty Loan

Headquarters of the Committee Transferred to the B. F. Goodrich Co. Building, New York—Malaya Restricts Dealing in Rubber Lands—Hofeller Retires

Special Committee of the Rubber Industry

Owing to insufficient space in the offices of the Rubber Association of America, 17 Battery Place, New York, the Liberty Loan Committee of the Rubber Industry of Greater New York has transferred its headquarters to the B. F. Goodrich Co. Building, 1780 Broadway, where Bertram G. Work, president of the B. F. Goodrich Co., and of the Rubber Association and head of the Loan Committee, has contributed generous space and equipment.

The working organization of the committee now consists of twelve members, with Bertram G. Work as chairman, thirty active and fifteen reserve salesmen, and five stenographers. The secretary and publicity director, M. L. Heminway, in direct charge of activities, is assisted by Alfred Borden, of Proctor & Borden, bankers, representing the Advisory Trade Committee, and by B. M. Mills of the B. F. Goodrich Co., acting sales-manager.

The response of the rubber industry of Greater New York has so far been gratifying, and there is every indication of a satisfactory fund being subscribed by this industry.

Any information desired by the trade regarding the Third Liberty Loan can be obtained by writing or 'phoning to the Liberty Loan Committee, 1780 Broadway, the telephone number of which is Columbus 8700.

LIBERTY LOAN WINDOW OF THE B. F. GOODRICH COMPANY

Malaya Restricts Dealing in Rubber Lands

The first law passed in 1918 by the Federated Malay States was one to amend the Rubber Lands Restriction Enactment, 1917, according to a report from Harry Campbell, American Vice-Consul at Singapore. The original enactment made certain exceptions, with regard to the acquisition of rubber lands exceeding 50 acres, in favor of British subjects and subjects of the rulers of any of the Federated Malay States.

After the passage of the law, the government of the Federated Malay States was advised by the Home Office, in London, that the provisions of the enactment, as passed, were contrary to certain treaties of the Imperial Government, and that it would accordingly be necessary to amend the original enactment in order to eliminate the objectionable provisions.

The amending enactment was accordingly passed by the Federal Council of the Federated Malay States on January 17, 1918, the principal alterations made to the original enactment being the elimination of the exceptions in British subjects and the insertion of a new section granting to the High Commissioner certain powers in connection with the transfer of lands concerning which written negotiations or other formally recorded preliminaries were engaged in by person or corporation prior to December 21, 1917. The amended sections now read:

2. For the purposes of this enactment (*a*) "Land" means land in the Federated Malay States which is cultivated with rubber and includes land which is, in the opinion of the Resident of the State wherein the same is situate, suitable for cultivation with rubber. (*c*) Every Asiatic born within a State which is one of the Federated Malay States shall be deemed to be a subject of the Ruler of such State. (*d*) In any question as to the nationality of a person the burden of proof of nationality shall be upon such person.

4. Subject to the provisions of this enactment, no person or corporation shall after the commencement of this enactment and so long as the same remains in force be competent to acquire from any other person or corporation or from the Government or otherwise howsoever any land or any right, joint, several or other, of ownership or occupation of or in any land except as provided in section 4A, and any agreement or declaration of trust, whether accompanied by possession or not, whereby any person or corporation who or which is not competent, within the meaning of this enactment, to acquire land, acquires or shall acquire at some future date any land or any right as aforesaid in land shall be null and void and of no effect.

4A. (1) The High Commissioner may grant to any person or corporation a written authority under his hand to acquire land, provided it be proved to his satisfaction.

(*a*) That such person or corporation was on the 21st day of December, 1917, engaged in written negotiations or other formally recorded preliminaries for the acquisition thereof; and

(*b*) That where land is proposed to be acquired by a corporation, whether for purposes of amalgamation, reconstruction, or otherwise, 95 per cent of the capital of such corporation is held by persons whose nationality is the same as that of the person from whom the land is to be acquired or, where the land is to be acquired from a corporation, is the same as that of the holders of 95 per cent of the capital of such corporation; and that where land is proposed to be acquired by a person from a corporation, the nationality of such person is the same as that of the holders of 95 per cent of the capital of such corporation.

(II) No authority granted under this section shall be transferable.

The
Elbow Touch

¶ Dawn is breaking—the great offensive is at hand. Beyond crashes the tremendous barrage—the air is filled with the angry swish of hurtling shells—Death operates busily.

¶ Three minutes—two—the soldier blanches. His limbs quake. "Over the top" and the pageant of death beat against his brain.

¶ A hand—firm and cool—presses his elbow. It brings him back—clears his whirling brain. "Steady, my boy, Steady!" it seems to say, and almost instinctively he too reaches out and touches the arm of the man beside him.

¶ Down the line it goes—the "elbow touch"—the mental stimulant—the newborn confidence, saying "We are ONE—we shall WIN!"

Courtesy The B. F. Goodrich Rubber Co.

Theodore Hofeller Retires

Theodore Hofeller, president of Theodore Hofeller & Co., Buffalo, N. Y., has retired from the waste rubber business. Mr. Hofeller has been for many years identified with the scrap rubber business and was the first president of the National Association of Waste Material Dealers and was active in its organization.

Van Horn Joins Klein Agency

H. E. Van Horn, recently sales manager of Airlight Rubber Co., joined the staff of the I. A. Klein Special Agency, New York, on April 1.

Annual Report of the United States Rubber Co.

The following reports were submitted by Samuel P. Colt, president, and W. G. Parsons, treasurer, of the United States Rubber Co., at the annual meeting of shareholders of that corporation held on March 19 and reported in the March 25 issue of THE RUBBER AGE AND TIRE NEWS:

In compliance with the by-laws of the company, your president herewith submits to the stockholders the following report for the fiscal year ended December 31, 1917:

The treasurer's report, appended hereto and made a part hereof, gives the consolidated general balance sheet as of December 31, 1917, and the consolidated income statement for the year ended December 31, 1917, of the United States Rubber Co. and all its subsidiary companies.

AMENDMENTS TO THE BY-LAWS OF THE COMPANY

With the notice of the annual meeting, there were sent to the stockholders for their consideration certain proposed amendments to the by-laws of the company, the adoption of which it is believed will tend to strengthen our organization. The amendments provide: for the creation of the offices of chairman of the board of directors and vice-chairman of the board of directors, one or both of which offices may be filled if found advantageous; for increasing the maximum number of directors from twenty-one to twenty-five; for making the operating council composed of heads of the operating departments, which has been tried out and has been found to be helpful, a committee provided for by by-law; for creating the office of comptroller in charge of the accounting departments of the company, in order to relieve the treasurer of his responsibility and thus strengthen both departments; and for other minor changes.

When it is considered that the business of the company has increased from $33,000,000 in 1905 to $176,000,000 in 1917, it will be seen that there is needed a broader and more comprehensive organization.

BASIS OF INVENTORIES

Inventories of manufactured goods and materials have been taken at cost, and $1,000,000 has been deducted from the income of the year to provide for cases where the market value of certain articles was below cost.

MAINTENANCE

The plants and properties of the company have been maintained as heretofore in the highest state of efficiency, and, with the charging off of $1,500,000 against the same from the income of the year, as shown above, it is believed that all depreciation is adequately provided for. As it has been some years since the fixed properties of the company were valued, your directors have ordered a new appraisal thereof, which now is in process of preparation, the result of which will be known later in the year.

CHARGING OFF FROM SURPLUS

In connection with the funding of the indebtedness, in the early part of the year, into $60,000,000 5 per cent. thirty-year, first and refunding mortgage bonds, the directors have felt it proper to charge off against the company's surplus the entire discount on such bonds, and the amount of the expenses of such funding, amounting in all to $5,362,612.39. They also have made liberal charges to provide for doubtful assets, these latter charges amounting to $1,583,829.28.

PROPERTY, PLANT AND INVESTMENTS ACCOUNT AND FIXED SURPLUSES

On December 31, 1916, the property, plant and investments account stood at $130,187,628.57 and the fixed surpluses stood at $15,080,230.78. On December 31, 1917, the property, plant and investments account stood at $128,105,825.80 and the fixed surpluses stood at $6,709,275.22. The difference is accounted for by the fact that $8,370,955.56 of fixed surplus was applied during the year in reduction of the property, plant and investments account in connection with our funding, and $6,289,152.79 was added during the year to that account for new construction, enlargement of plants, equipment, etc.

UNITED STATES RUBBER EXPORT CO., LTD.

In our export business there has been greater activity the past year and such sales have increased over fifty per cent. In 1917 the proportion of export sales to the entire business of the company has been seven per cent. as compared with six and a half per cent. in 1916.

MANUFACTURING DIVISIONS

The business of the company comprises three manufacturing divisions, footwear, tires and mechanical goods, which well balance one another. In the early days of the company its business was almost entirely confined to footwear, and, consequently, the organization of this important division has had a longer time in which to perfect itself. The company entered the tire business and mechanical goods business chiefly through the acquisi-

The Treasurer's Report

United States Rubber Co. and Subsidiary Companies. Consolidated General Balance Sheet, December 31, 1917

ASSETS

Cash	$9,463,833.51	
Accounts receivable	36,313,607.21	
Notes and loans receivable	2,056,906.30	
Manufactured goods and material	72,440,170.37	
Total current assets		$120,274,517.39
Securities, including Liberty Bonds, and stock of United States Rubber Co., held by subsidiary companies		7,937,920.06
Property, plants and investments, including rubber plantations		128,105,825.80
Prepaid and deferred assets		1,257,518.44
Total assets		$257,575,781.69

LIABILITIES, RESERVES AND CAPITAL

Accounts payable—merchandise	$8,548,083.99	
Acceptances payable for importation of crude rubber	1,877,676.59	
Accrued current liabilities, taxes and interest	5,249,718.05	
Notes and loans payable	19,430,955.00	
Total current liabilities		$35,106,433.63
United States Rubber Co. first and refunding mortgage 5 per cent gold bonds, due 1947	$60,000,000.00	
Canadian Consolidated Rubber Co., Ltd., 6 per cent gold bonds, due 1946	2,600,000.00	
General Rubber Co. 5 per cent bonds, due December 1, 1918	9,000,000.00	
Underlying bonds	$24,169,000.00	
Cash deposited to provide for same	24,169,000.00	71,600,000.00
Total liabilities		$106,706,433.63
General reserves	$3,072,169.61	
Insurance funds reserve	$1,316,528.93	
Employes' accident fund reserve	485,323.37	1,801,852.30
Reserve for depreciation of property and plants	7,707,890.83	
Reserve for January dividend on preferred stocks	1,240,498.00	
Total reserves		13,822,410.74
Capital stock, first preferred	$61,722,200.00	
Capital stock, second preferred	403,600.00	
Capital stock, common	36,000,000.00	
Minority—Canadian Consolidated Rubber Co., Ltd., stock	320,655.00	
Total capital stock	$98,446,455.00	
Fixed surpluses—subsidiary companies	$6,709,275.22	
Surplus	31,891,207.10	38,600,482.32
Total capital stock and surpluses		137,046,937.32
Total		$257,575,781.69

CONSOLIDATED STATEMENT OF EARNINGS

Total sales		$176,159,694.30
Cost of manufacturing, selling, general expenses and taxes		144,916,640.69
Operating profits		$31,243,053.61
Cash discounts allowed customers for prepayment, net	$4,416,943.50	
Deductions for bad debt	607,528.74	5,024,472.24
Net gain on sales		$26,218,581.37
Income charges, net		4,294,617.86
Net income before interest		$21,923,963.51
Interest charges, net		3,117,856.99
Net income for period		$18,806,106.52
Reserved for Federal income and excess profits and Canadian business profits taxes		3,465,529.89
Net profits for period		$15,340,576.63
Dividends—United States Rubber Co.:		
1st preferred, 8 per cent	$4,937,154.00	
2nd preferred, 6 per cent	24,216.00	
Dividends to minority stockholders of subsidiary companies	20,692.50	$4,982,062.50
Surplus for the period		$10,358,514.13
Surplus beginning of period		28,479,134.64
Total		$38,837,648.77
Deductions from surplus		6,946,441.67
Surplus December 31, 1917		$31,891,207.10

Respectfully submitted.
W. G. PARSONS, Treas.

tion of the Rubber Goods Manufacturing Co. in 1905, and both of these divisions have grown rapidly during the last few years. The prospect of future expansion of all three divisions is most promising, especially in view of the assurance of abundant supplies of crude rubber at a moderate cost owing to the cultivation of the rubber tree in the Far East.

GENERAL RUBBER CO.

This company with its own branches in all the principal rubber-producing centers in the East and Brazil, as well as in London and Liverpool, continues to place us in an advantageous position in regard to our requirements of crude rubber.

SUMATRA RUBBER PLANTATIONS

Our receipts of rubber from our plantations in Sumatra in 1917 were up to the estimate, and, with the growth and maturity of the young trees, should increase materially in 1918. We have recently formed, under the laws of the State of New York, a corporation to be called the United States Rubber Plantations, Inc., with a present capitalization of $10,000,000 preferred stock and $20,000,000 common stock. This new company, as a subsidiary of the General Rubber Co., will control our Far Eastern plantations.

WAR ORDERS

With our country at war, we have received larger war orders than in any previous year, and yet these represent only about five per cent. of our total business.

PENSION PLAN FOR EMPLOYES

During the year the company inaugurated a plan for the payment of pensions to aged and infirm employes, which, it is thought, not only will provide a modest subsistence for those who have served the company for a long time and who may not be able to give further efficient service, but also should induce a feeling of loyalty and confidence on the part of the whole body of our employes.

VALUE SHARING PLAN

While some years ago a system of stock subscription and profit sharing for employes was inaugurated to interest the employes in the stock of the company, it has been thought desirable to institute a broader system to enable the workers in the company to share in the values which they are helping to create. Accordingly, a plan has been arranged by which the company carries common stock for certain workers desiring to subscribe for same. This stock was purchased by the company in the open market and sold to the workers at cost and is carried for them by the company. This will enable a large number of workers to become interested in the stock of the company and, it is believed and hoped, will stimulate still further their zeal and loyalty.

CONCLUSION

There is every indication of our company doing in the present year a business even larger than in the past, and, while the uncertainties of trade are greater than in normal times, we look for satisfactory results.

It again gives me pleasure to refer to the continued fidelity and ability shown by the officers, heads of departments, our Far Eastern and foreign staffs, and other employes of the company and its subsidiaries.

Respectfully submitted,

SAMUEL P. COLT, Pres.

News Jottings in the Rubber Trade

Annual Meeting of B. F. Goodrich Co.—New Republic Officers—Allege Spies Hamper with Gas Masks—French Made Lieutenant

Goodrich Annual Meeting

At the annual meeting of the stockholders of The B. F. Goodrich Co., held at the office of the company in New York City, on March 13, Waddill Catchings and F. V. Van Cleef, secretary of the company, were elected directors in place of Henry Goldman and F. A. Hardy, both of whom are retiring from active business. There were no other changes in the board.

At the meeting of directors which followed the stockholders' meeting, all the former officers of the company were re-elected. In addition, H. E. Raymond, W. O. Rutherford, W. C. Geer and A. B. Jones were elected second vice-presidents; H. C. Miller was elected manager of tire sales, and W. H. Yule, manager of mechanical goods sales.

The executive committee of the directors for the coming year consists of B. G. Work, H. E. Raymond, W. O. Rutherford, W. C. Geer, A. B. Jones and L. D. Brown. E. C. Shaw has requested that he be relieved of active participation in the management of the company's business, but will continue as vice-president in an advisory capacity.

Dodd-Du Bosque Co.

Announcement is made that the name of J. D. Barnhill, Inc., has been changed to Dodd-Du Bosque Co., Inc., New York City.

Cornell Manages Hamilton

A. Boyd Cornell, a prominent Trenton, N. J., rubber man and until recently secretary of the Empire Tire & Rubber Co., has become general manager of the Hamilton Rubber Manufacturing Co.

New Republic Officers

Harry Stambaugh, formerly with the Wm. Todd Co., Youngstown, Ohio, has been made assistant treasurer of the Republic Rubber Co., Youngstown, and A. L. Irish has been elected assistant secretary. Former officers of the Republic Co. have been re-elected with the exception of Chairman Thomas L. Robinson, who is abroad, and it was decided for the present not to elect a chairman.

Alleges Spies Tampered with Gas Masks

Senator Thomas of Colorado before the Senate on April 2, stated that German spies, working in one of the war factories, had tampered with gas masks. Out of 5,000 masks made for the American troops, he said, it had been discovered that 2,900 were defective, tiny perforations having been made in the rubber. The defective masks were discarded by inspectors but were later found packed among a shipment. Once more they were put aside. The perforations were so small, Senator Thomas said, as not to be visible to the eye until the rubber was stretched. The masks would have been entirely useless in a gas attack. The Colorado Senator, urging the passage of a bill offered by Senator Hoke Smith, to appropriate $100,000 for preliminary work by the Bureau of Education in a campaign on illiteracy, advocated the teaching of English in every community in the country as a way of stamping out what he called Pan-German propaganda. Senator Thomas declared that in many communities English was not spoken and that German intrigue was carried on under the German tongue.

French Now a Lieutenant

Harold S. French, formerly Akron correspondent of THE RUBBER AGE AND TIRE NEWS, now with the American forces in France, has been named a first lieutenant of the Aviation Section of the Signal Corps on the recommendation of General Pershing. Mr. French went to France last June as an ambulance driver, but later enlisted in the United States overseas forces and became a cadet in an American military flying school in France, from which he graduated as a junior military aviator.

FIRST LIEUT. HAROLD S. FRENCH

Hall Made Director of Beacon Trust

George E. Hall, vice-president and general manager of the Boston Woven Hose & Rubber Co., Cambridge, Mass., has been elected a director of the Beacon Trust Co. of Boston, Mass.

Col. Colt's Son with the Air Service

One of the latest recruits for the Aviation Section is Russel G. Colt, son of Col. Samuel P. Colt, president of the U. S. Rubber Co., New York. Young Colt was a member of H. L. Horton & Co., New York. He is now at one of the Government training grounds learning to fly.

J. A. Murray with Parker Stearns

James A. Murray, for twenty-five years with the Seamless Rubber Co., New Haven, Conn., first as superintendent and later as vice-president and general manager, has become superintendent of Parker, Stearns & Co., Sheffield Avenue, Brooklyn, N. Y., one of America's largest manufacturers of druggists' sundries.

Osborn Planning for Armstrong

It is reported that the Osborn Engineering Co., Garfield, N. J., is preparing plans for a factory for the Armstrong Rubber Co.

Barker Tire to Build Factory

The Barker Cushion Tire & Rubber Co., 7956 South Park Avenue, Chicago, has awarded the contract for the construction of a two-story 50 x 128-ft. factory, to cost approximately $16,000.

Ardmore Akron Awards Contract

The Ardmore Akron Tire & Rubber Co., Ardmore, Okla., has awarded the contract for a one-story 100 x 300-ft. factory, the estimated cost of which is $60,000.

TIRE NEWS

A Model Tire and Accessory Jobbing House

One of the most striking examples of success achieved in the tire and automobile accessory business is the Beers Brothers Co., Oil City, Pa., which recently opened a three-story building that is a model of its kind.

The Beers Brothers Co.'s building is constructed of brick and steel with a white terra-cotta front and is situated on the main street in the heart of the business district of Oil City.

The basement is used for storage purposes. The main floor is devoted entirely to a show and salesroom and is finished in mahogany. Glass cases serve as an effective medium in which to display such small accessories as lamps, clocks, speedometers, mirrors, tire accessories, etc., while stock supplies of these and other articles are kept on shelves, and in bins and drawers arranged along the side walls. The arrangement permits the store to carry a large assortment of accessories and yet keep them all orderly arranged and readily accessible. The rear of the store is used for displaying heavy accessories and contains a large tire display rack.

The second floor is used for the general offices and the shipping department, while the third floor serves for the storage of bulky articles. The entire building is well lighted and the doors of the main entrance are arranged at each side of a large show window affording ample room for displaying a complete car as well as tires and sundry accessories.

Although the Beers Brothers Co. originally divided their attention between the retail and wholesale business, the demands of the wholesale end gradually forced them out of

LOOKING FROM THE TIRE AND HEAVY ACCESSORIES DEPARTMENT TOWARDS THE FRONT OF SALES ROOM

The Beers Brothers Co. originally was formed to manufacture a special line of oil well supplies under its own patents. It was organized in 1900 with main offices in Oil City and a factory in Marion, Ind. The success of this venture was so great that in 1913 the company received an offer of purchase so attractive that it sold out its oil well supply interests, and in 1914 entered into the automobile tire and accessories business to which it has since confined its efforts.

THE SALES ROOM

their retail trade. For more than a year they have been confining their energies strictly to the wholesale business.

The rapid growth and the great success of the Beers Brothers Co. is just so much more evidence of the possibilities of sound business principles applied to the automobile tire and accessories trade. No more than three years ago this company was confining its activities to a field entirely outside of the automobile tire and accessories business, but when it entered this line of trade it brought with it the principles its members had acquired in other lines of business, and today it is firmly established in its new field.

Henry I. Beers, president of the company, began his business career as engineer of the Bridgeport Bridge Works, Bridgeport, Pa., afterwards becoming connected with the Pennsylvania Railroad.

Percival C. Beers, treasurer, started in life as a bookkeeper in the First National Bank of Oil City, and later went into the oil well supply business.

W. S. Van Horn, secretary, gained his first experience as a school teacher and bookkeeper.

In keeping with their policy to do all in their power to increase the earnings of their customers and consequently their own prosperity, the Beers Brothers Co. loan their big show window to automobile dealers in their territory for displaying their cars. A car displayed under these conditions is shown in one of the accompanying photographs.

SHOW WINDOW LOANED TO LOCAL AUTOMOBILE DEALERS

Tire Trade News

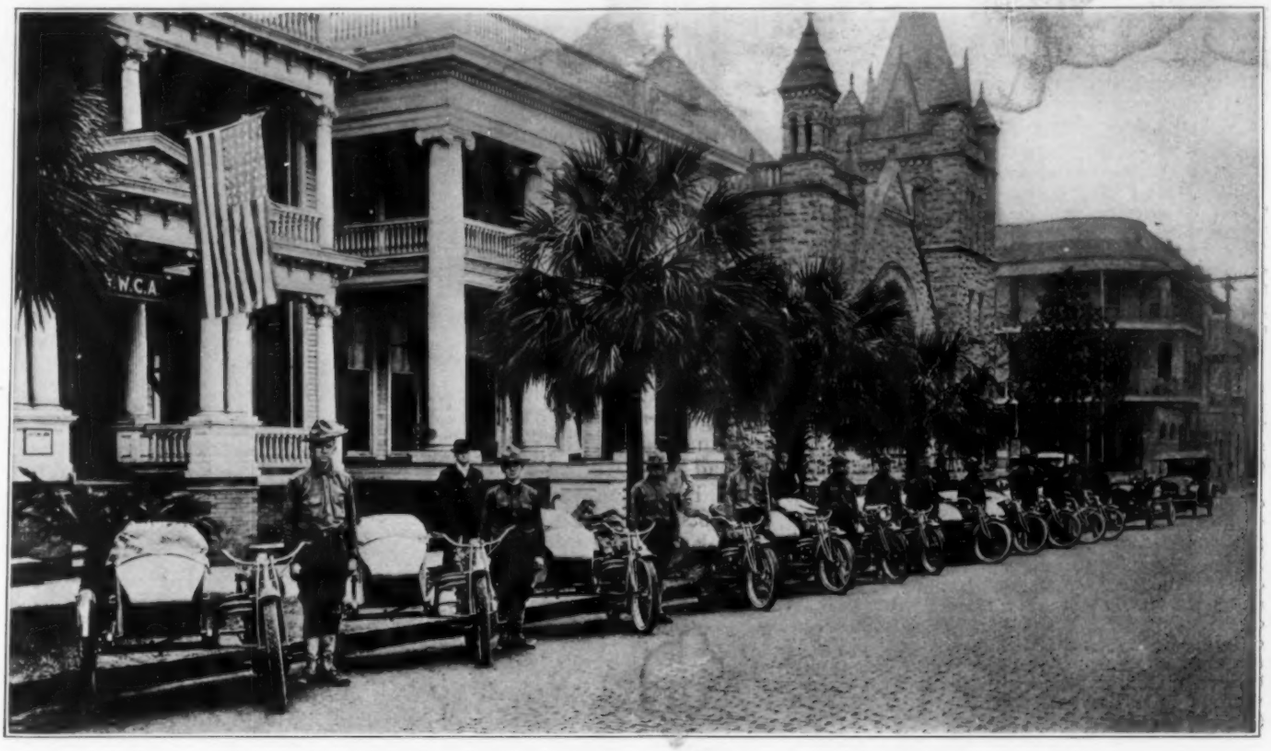
Mason to Make Solid Tires—Samuel A. Cunningham Dies—Henry Distributes Horse Shoe Tires—Goodyear Scouts Have Field Executive

The trade will be interested in the announcement of the Mason Tire & Rubber Co., Kent, Ohio, that in line with its progressive policy the company will manufacture solid truck tires. The new line will be complete in every detail, including giant tires for the largest and heaviest trucks down to the small sizes for light delivery trucks. The company expects to be turning out the small size tires within the next three months, and all sizes by fall.

The plan to manufacture solid truck tires has been under consideration for some time. A difficult problem was that of formulating an economical plan of producing truck tires at the present plant of the company in connection with pneumatic production. The problem was put up to the Osborne Engineering Co. of Cleveland, who are the architects and engineers of many of the largest plants in Akron. This company made a complete survey of the Mason factory and have devised a plan for turning out truck tires that will not interfere with the constantly increasing pneumatic production.

It is possible, according to the plan of the Osborne Engineering Co., to take care of the contemplated production of 1,200 to 1,500 pneumatic tires a day, which the Mason factory will soon reach, and also to turn out a large number of solid tires. It is expected that the new department will be turning out one hundred solid tires per day by Jan. 1, 1919. Forty to fifty people will be employed in the solid tire section of the Mason Co.

In discussing the new field, D. M. Mason, general manager, said: "It was inevitable for some time past that we would get into the solid tire field. Since the United States entered the war, the full value of the motor truck has been realized. It has bridged the gaps of transportation which were made on account of the unusual demands on our railroads, and it has also established itself as an organized system of distribution, going on definite schedule from city to city in many sections of the country. In a word, the motor truck is just coming into its own. Its future is tremendous. As the use of the truck becomes greater, the demand for solid truck tires will increase to a corresponding degree. We wish to take advantage of this great field of expansion. We shall make truck tires in all types, one for every load, road and condition of service."



FIRESTONE EQUIPPED MOTOR COMPANY, JACKSONVILLE, FLA.

Samuel A. Cunningham Dies

Samuel Alfred Cunningham, a prominent business man and treasurer of the Gryphon Tire & Rubber Co., died on March 28 following an operation for intestinal trouble.

Mr. Cunningham, who was a relative of Abraham Lincoln, was born in Madison, Ind., fifty-eight years ago. His forefathers went West with Daniel Boone. He attended the private schools in Madison, a military academy at Chester, Pa., and Heidelberg University. Mr. Cunningham married a niece of George F. Baker.

In his younger days he owned one of the largest orange groves in Florida. He then entered the banking business in Madison. Twenty years ago he came to this city and became connected with the Bankers Trust Company.

Mr. Cunningham was also president of the Wyoming United Oil Co., treasurer of the Norman Garage and Sales Co., and a large stockholder in the East Jersey Water Co. A widow and daughter survive him.

Henry Distributes Horse Shoe Tires

G. L. Henry has resigned as New England district manager for the Stewart-Warner Speedometer Corp., Chicago, to become vice-president of the Horse Shoe Tire Co. of New England. This company has just been formed to distribute Horse Shoe tires in the east, and has offices at 885 Boylston Street, Boston. A. E. Marquard, who has been his assistant for some time, succeeds Mr. Henry as Stewart-Warner district manager.

The Horse Shoe tire is the product of the Racine Auto Tire Co., Racine, Wis., which has been manufacturing tires for the past ten years.

Joseph A. Gahm, of Boston, is president of the Horse Shoe Tire Co. of New England.

Lee Has New Plans

Branch offices, to replace arrangements with jobbers, which are now being established by the Lee Tire & Rubber Co., are expected to result in a considerable saving, according to Chairman John J. Watson, Jr.

The company is now working to 50 per cent of capacity. Sales this year are estimated at $4,000,000 and 10 per cent profits are expected. John Prentiss and Grayson M. P. Murphy have resigned as directors, both being in war service. James A. Fayne and Walter R. Herrick were elected to fill the vacancies.

Goodyear Scouts Have a Field Executive

(Special Akron Correspondence.)

The Goodyear is one of the first companies in the United States to employ a regular boy scout executive to look after the troops formed among the sons of the employes of the company.

At the Goodyear there are now five troops with an up-to-the-minute scout lodge, where fully 100 youngsters receive training every week. D. M. Olds is field executive for the organization.

Tire Trade Happenings of Interest

Seiberling Visits Goodyear Cotton Plantation—New Mason Pneumatic —Personal Notes—Tire Companies' Activities

Seiberling Visits Phoenix

Frank A. Siberling, president of The Goodyear Tire & Rubber Co., Akron, Ohio, accompanied by other officers of the company, recently visited the Goodyear cotton plantation near Phoenix, Ariz. On the journey the party stopped at El Paso, Tex., where they were entertained by the president of the Chamber of Commerce of that city.

Caldwell with Ajax

Elmer E. Caldwell has been appointed assistant advertising manager of the Ajax Rubber Co., New York. He has been in the advertising departments of the Michelin Tire Company and the Willys-Overland Co.

Makes Advance in Tire Prices

The Standard Four Tire Co., of Keokuk, Iowa, announces an advance in the price of tires effective April 5.

New Mason Pneumatic Tire

The Mason Tire & Rubber Co., Kent, Ohio, is starting the manufacture of a new pneumatic tire, known as the Kent. This new tire will be manufactured exclusively for some of the largest jobbers in the United States. Complete equipment for the new tire has been ordered and it is expected that production will be heavy from the first of May on.

The Kent tire will be a separate tire, entirely distinct from the present plain, non-skid, ribbed and cord tires manufactured by the company. The non-skid design is very attractive and its non-skid qualities have been thoroughly tested.

One of the executives of the Mason Company in speaking of the new tire said: "The name which has been chosen for this tire 'The Kent,' is another move by the Mason Company to put the name of our city in the foreground as an industrial and particularly a rubber manufacturing center. Many names might have been chosen, but it seemed to us that Kent was the most appropriate and significant. We believe this brand in its particular field will duplicate the success of our Mason tire."

Gilmour Goes to Racine

J. V. Gilmour, for the past ten years active in the advertising business, has just joined the advertising department of the Racine Rubber Company of Racine, Wis. Mr. Gilmour entered the advertising department of the Chicago, Milwaukee & St. Paul Railway in 1909 and a few months later was appointed advertising manager of the Chicago & Eastern Illinois Railroad.

Barr with Stewart Motor Car Co.

Burt R. Barr, at one time connected with the Goodyear Tire & Rubber Co., Akron, Ohio, has been appointed manager of the Stewart Motor Car Co., Buffalo, N. Y.

Berg Company Distributing Portage Tires

The Berg Auto Supply Co. is now distributor for Portage tires in all of Alameda County, Cal., with the exception of Berkeley, in which city C. A. Muller, the present agent, will continue as selling representative. Contra Costa, Napa and Solano Counties will also be looked after by the Berg Co.

Elston with Asbestos & Rubber Works

C. J. Elston, service manager of the Saxon Motor Car Co., Detroit, Mich., has resigned to become sales manager of the Asbestos & Rubber Works of America, New York City.

E. M. Baxter with U. S. Rubber

E. M. Baxter, manager of the White Hardware Co., Oceanside, Cal., has severed his connection with the business, and will have charge of the San Diego, Cal., office of the U. S. Rubber Co.

Ruston with Dayton

William B. Ruston, who was formerly connected with the B. F. Goodrich Co., the Lee Tire Co., and the Thermoid Rubber Co., has accepted the position as sales manager for the Dayton Rubber Manufacturing Co.

Small Fire at Kelly-Springfield

A small fire in the spreader room of the Kelly-Springfield Tire Co., Akron, Ohio, occurred recently but was quickly extinguished by the city firemen. A few rolls of fabric were destroyed.

Goodrich Soccer Team Called

The Goodrich soccer team has been practicing on Sunday morning of late at Goodrich Field. The City League season is being decided upon.

Goodyear Expert on Nation's Tire Bills

L. C. Rockhill, merchandising expert of the Goodyear Tire & Rubber Co., Akron, Ohio, offers some timely suggestions as to how the nation's tire bills can be greatly reduced if car dealers will take a greater interest in their customers' tires. He expresses the opinion that the great majority of tire dealers underestimate the importance of tire conservation.

Moses Resigns from Fisk

S. D. Moses has resigned as manager of the Buffalo, N. Y., branch to become distributor of the Lee Tire Co., at Buffalo. Before being made store manager, Mr. Moses was connected with the Fisk Rubber Co.'s Chicago branch for two years.

Bryon with McGraw

Frank Bryon, well known throughout the tire trade, has returned to Boston to become New England manager for the McGraw Tire & Rubber Co., whose headquarters are 1112 Boylston Street.

Morris Is Savage General Manager

Raymund V. Morris, recently connected with the Curtiss Aeroplane & Motor Co., has been made general manager of Savage tire affairs, as conducted by the Savage Tire Co., and the Savage Tire Corp. His appointment was made at a recent meeting of the two companies at San Diego, Cal.

Fisk Club Wins Prize

Roos Howe, 264 North First Street, Salt Lake City, Utah, who is secretary of the Fisk Busy Bees of the Fisk Bicycling Clubs of America, has just received word from the Fisk Rubber Co., Chicopee Falls, Mass., to the effect that his club is one of the one hundred best Fisk clubs in the entire country.

Motor Accessories Corp. Elects Officers

The Motor Accessories Corporation at its annual meeting at its offices, 170 Broadway, New York, elected the following officers: President pro-tem, H. J. Curtis; secretary, M. H. Horton; treasurer, H. L. Redfield.

J. & D. Changes

F. Smith, one time eastern sales manager for the Jeffery Motor Car Co., superintendent of branch houses for the Maxwell Motor Car Co., and until recently secretary and sales manager and one of the organizers of the Briscoe Motor Car Co., is now identified with J. & D. Tire Co., Charlotte, N. C., in active charge of sales.

H. A. Lane with Mulford Hass

H. A. Lane has secured the position of manager of the tire department of Mulford Hass Co., Ford distributor in Brooklyn, N. Y. He was formerly Brooklyn manager for the Firestone Tire & Rubber Co.

Millhoff Anticipates Big Accessory Business

Frank C. Millhof, general sales manager of the Miller Rubber Co., Akron, in addressing a body of tire dealers, recently expressed the opinion that a far bigger accessory business will be done this year in proportion to tire sales than heretofore.

Williard Hicks Made Ensign

Willard Hicks, formerly a student at the company, has been made an ensign in the Mosquito Fleet. The service flag of the company now has forty-three stars.

Elofson Resigns

O. R. Elofson, assistant advertising manager of the Racine Rubber Co., Racine, Wis., has resigned to return to the Wm. H. Rankin Co., advertising agent at Chicago, as assistant to Wm. H. Rankin. J. V. Gilmour, from the advertising side of the traction field, has joined the Racine company's advertising department.

W. S. S. Societies at Goodrich

(Special Akron Correspondence.)

C. P. Ufford, manager of Department 18-U, Grade Extension and Research Division of the B. F. Goodrich Co., announced lately that they had formed two War Saving societies among the 22 members of his department. Similar clubs will be formed soon in other departments.

Members of the two clubs already organized are using as a basis the dollar's worth of thrift stamps given them at Christmas by the company. There are eleven members in each club and the group that completes its $5 thrift cards first will be entertained by the losers.

C. G. Collmer Goes to Bangor

(Special Akron Correspondence.)

C. G. Collmer, adjuster for the B. F. Goodrich Co., is in charge of the Bangor, Me., branch, replacing branch manager T. Donnellan, who has resigned to enter the United States service.

Cluff on Mason Board of Directors

W. A. Cluff, auditor of the Mason Tire & Rubber Co., has been elected to the Board of Directors of that company. Mr. Cluff was formerly with the Union Commercial Bank and also the Reserve Trust Co., of Cleveland. Later he was a public accountant in Cleveland. Mr. Cluff has also been appointed first assistant treasurer of Mason Company.

MARKETS

Manufactured Rubber Goods

NEW YORK, April 10, 1918.

Preparations for spring business are going forward everywhere. While sales at present do not show anything startling, as to totals, it is confidently believed that as the season advances there will be a very satisfactory amount of business in most all lines of rubber goods.

Transportation embargoes continue to be the main obstacle to trade, especially so in the East. This hindrance has become increasingly embarrassing to some rubber factories which are unable to move manufactured goods that are choking their warehouses. Shipping permits are readily secured for strictly Government orders, but for ordinary commercial shipments it is becoming constantly more difficult to forward goods because of inadequate railroad transportation facilities.

However, there has been a general improvement in business during the past two weeks, especially in the Middle West, where the country roads are opening up fine, with the result that tires are moving freely.

MECHANICAL GOODS

The volume of sales in most lines of mechanical rubber goods is very good, and difficulty is already being felt in various parts of the country in securing certain articles such as belting and hose. The Government and concerns engaged in Government work, contractors, etc., are particularly heavy buyers, and output is being curtailed on account of the scarcity of suitable fabrics.

TIRES

The demand for both automobile and cycle tires has become active and retailers are taking in good-sized stocks. Dealers report that the heavy ice and snow of last winter necessitated a more general and longer use of tire chains, with the result that an unusually large number of tires show chain cuts. This development is becoming noticeable in retail sales of tires and promises to make the demand for solid rubber motor truck tires far larger than had been expected.

There continue to be unconfirmed reports that tire prices will be advanced, and there is division of opinion in this connection. While some of the big tire companies have been advising dealers to contract without delay for their season's requirements, others say that an increase in prices is not likely. This difference of opinion is due to contrasted viewpoints as to the future course of the markets for materials entering into the making of tires. Tire manufacturers who have not covered their requirements by forward contracts for raw materials are, of course, at the mercy of price increases in raw material prices.

However, there are good reasons to expect higher tire lists, and the trade would not be surprised to see one of the largest tire companies take the initiative and add about 10 per cent to its tire prices.

RAINCOATS

Specifications on Army raincoats have been modified, and the 3,000,000 coats still due the Government on old contracts are to be changed over to accord with the new patterns. An adjustment is to be made with manufacturers on the basis of $1 additional for the lightweight and $1.50 for the heavy.

Production will be on the basis of a labor cost of $1.05 per coat, agreed upon at a conference between the representatives and the workers.

This price is to remain in effect for three weeks, under observation of the several interests, and it will then be subject to an adjustment upward of 10 per cent.

The Army quartermaster last week distributed new contracts for 890,000 raincoats as follows:

Cambridge Rubber Co., Cambridge, Mass., 40,000 light weight at $5.70 each and 80,000 heavy at $5.57 each.

Chicago Rubber Clothing Co., Chicago, 30,000 light weight at $5.12.

Hodgman Rubber Co., Tuckahoe, N. Y., 80,000 light weight at $5.06 and 100,000 heavy at $5.61.

Interborough Raincoat Co., New York, 20,000 light weight at $5.12.

New York Mackintosh Clothing Co., New York, 10,000 light weight at $5 and 20,000 heavy at $5.60.

Plottel Raincoat Co., New York, 30,000 light weight at $5 and 60,000 heavy at $5.55.

United States Rubber Co., New York, 120,000 light weight at $4.98 and 240,000 heavy at $5.55.

The Quartermaster's Department has announced that within the next day or two it will place orders for 50,000 or 60,000 more coats of both classes.

DRUGGISTS' SUNDRIES

The wholesale business in druggists' sundries is quiet, as it usually is at this season of the year, but the retail trade reports a satisfactorily large volume of business.

Manufacturers are very busy on Government work, which is obliging them to sidetrack civilian orders, and they are generally handicapped by an unusual shortage of help.

Cotton, Yarn and Fabric

NEW YORK, April 10, 1918.

Further decided proof has been furnished during the last two weeks that the raw cotton market has cut loose from all former lines of reasoning. The tremendous battle in France, the largest submarine sinkings in a long while, increased old crop views, decreasing spinners' takings, scarcity of shipping opportunities, accumulating evidence of an increased acreage, generally favorable new crops advices, including good rains in Texas and Oklahoma, all coming together, would in ordinary time have resulted in a series of bad breaks. These are no ordinary times, however, and only a slight hesitancy was apparent, to be followed by another active advance to new high levels.

The cause is the same that has ruled the market for some time. Manufacturers are daily contracting ahead for their full capacity at very remunerative prices, and as the South continues to sell its cotton slowly there is not enough for all, and the deficiency must be covered by purchases of "futures." On such transactions there is no watching of fluctuations and no selling out on stop orders; the contracts are locked up indefinitely and will not be sold until the actual cotton can be bought. Relief of this congestion can only come of an increase in the supply, to some extent, perhaps, as each succeeding advance induces some of the Southern holders to sell, but in the main by the assurance of an excessive supply next year.

The assurance is many months away, if it is to be seen at all, and these holders of the hedges will not sell out on prospects. There is, therefore, every reason to expect the sewed-up condition of the market to last well into the late summer, and as the plans for increasing our army develop, it will be rendered still more acute by the enormous additional requirements for the equipment of that army.

Still higher prices can be expected, regardless of minor occurrences from time to time.

EGYPTIAN COTTON

The arrival last week in Boston of a cargo of 9,000 bales of Egyptian cotton attracted special attention because it was the first cargo to arrive since January, and only the second since last summer. About 15,000 more bales are expected to arrive in the near future, and there is promise of another cargo a little later. Egyptian importations are, therefore, not so entirely cut off as was generally believed.

The trade was interested this week in the report that when the British and Egyptian governments take over the new Egyptian crop and the balance of the old crop next August, they will promulgate new types of their own and sell the cotton on these types, on a basis of about 48 cents for fully good fair Sakellarides, f.o.b. Alexandria.

SEA ISLAND

Sea Island cotton values remain unchanged at 75 cents for average extra choice, with little business being done.

Planting is under way in the Sea Island belt, and it is reported that there is going to be a decided decrease in acreage. The present price of Uplands and the certainty of being able to sell at any time is rather inducive to farmers to put in short cotton in place of Sea Islands. With the decrease in Egyptian acreage there will probably be a shortage of staple cottons running over 1½ inches next season.

YARNS

Cotton yarns are in active demand and the supply for quick use is said to be very light; all carded yarns, especially the coarse numbers, are reported to be very scarce. As a consequence of this situation cotton yarn dealers are unable to secure bids or acceptances from spinners even on tenders made at full prices.

FABRICS

Due to undiminishing Government requirements the fabric market generally continues firm with an advancing tendency. The difficulty in obtaining the necessary raw materials is also an outstanding and determining factor in the present situation. Prices are high, and it is expected that the authorities at Washington will exentually make some definite move toward price regulation.

TIRE FABRICS

The tire fabric market shows a steadily advancing tendency, and is more active and stronger in tone than it has been at any time within the last six months. Prices quoted for combed Sea Island, 17¼ fabric, range from $1.60 to $1.80 per sq. yd.; combed Egyptian, $1.35 to $1.45; carded Egyptian, $1.25 to $1.35; carded Peeler, 90 cts. to $1.05; and combed Peeler, $1 to $1.20.

HOSE AND BELTING FABRICS

The demand for mechanical ducks continues strong and the supply limited. The mill production of these goods for civilian account is decreasing daily, and the looms given over to filling the Government requirements. The outlook, however, is not regarded pessimistically by rubber manufacturers, despite the fact they are experiencing considerable difficulty in some cases in securing the necessary supplies.

DRILLS, OSNABURGS AND SHEETINGS

The demand for these fabrics is considerably in excess of the supply due to the large number of looms given over to Government work, and which are drawing largely upon the cotton supply. Prices are advancing in an unprecedented manner, and Government price fixing is considered in many quarters the only solution to this problem.

BURLAPS

The burlap market continues to be steady and demands remain spotty. Only strong buyers who have assured needs of goods are operating at present high levels for spot and afloat goods. Future importation rests on availablity of freight space and the prospect of reduced shipping in the Middle East is naturally a factor of strength to the holders of goods. Prices are nominal and decided for the most part by conditions peculiar to each sale.

NEW YORK QUOTATIONS

TIRE FABRICS.

17¼-ounce Sea Island, combed,	sq. yd.	$1.62@1.73
17¼-ounce Egyptian, combed		1.24@1.60
17¼-ounce Egyptian, carded		1.20@1.25
17¼-ounce Peelers, carded		1.00@1.25
17¼-ounce Peelers, combed		1.05@1.10

DUCKS

Single Filling (pound basis)	lb.	.64
Double Filling (pound basis)		.75

DRILLS

37-inch 2.35-yard	yd.	.33
37-inch 2.75-yard		.30
37-inch 3.00-yard		.26
37-inch 3.25-yard		.25
37-inch 3.50-yard		.24
37-inch 3.95-yard		.22
37-inch 2.00-yard Southern	lb.	.55
38-inch 2.00-yard Northern		.56½
40-inch 2.47-yard Northern	yd.	.28
40-inch 2.47-yard Northern		.35
52-inch 1.90-yard Southern		.37
52-inch 1.90-yard Northern		.34

SHEETINGS

40-inch 2.35-yard	yd.	.32
40-inch 2.50-yard		.32
40-inch 2.85-yard		.30
40-inch 3.00-yard		.29
40-inch 3.25-yard		.30
40-inch 3.60-yard		.24
40-inch 3.75-yard		.23
40-inch 4.25-yard		.20
38-inch Jacket Cloths	yd.	.21@23

BURLAPS
(Spot Carload Lots)

40-inch 8-ounce		19.25
40-inch 10-ounce		23.75
40-inch 10½-ounce		23.50

Chemicals and Compounding Materials

NEW YORK, April 10, 1913.

The feature in the market was the strength of the various products sold on a bulk basis and usually shipped in carlot quantities. The rail embargoes developed a tight situation in such items as barytes, aluminum flake, sulphur, mineral rubber, mineral blacks and talc. Trading was described as fair, notwithstanding the fact that prices for many of the more important commodities were abnormally high. Higher prices obtained for acids, caustic soda, soluble blues, palm oil and paraffine wax. Irregularity was noted in aniline oil, benzol, turpentine and rosins. Calcined magnesia, in barrels, ruled firm. Sulphurets of antimony held on a firm basis, as production in many directions appears to be well taken care of through existing contracts.

ANILINE OIL

Competition was keen and with the demand routine only prices for aniline oil were unsettled, closing at 26 @ 27c. per pound, drums extra. Second-hands were sellers of scattered lots at 25 @ 26c. per pound, bulk basis.

BENZOL

The market for pure benzol was easy under selling pressure. The smaller producers were anxious for business, due to the fact that their storage facilities were badly taxed and sales of fairly large quantities were reported on the basis of 30c. per gallon, bulk, immediate shipment from works. Prominent producers still quote 35c. per gallon, at works, but intimated that this figure might be shaded on contract.

DRY COLORS

A firmer market is reported for dry colors, offerings being scanty, due to the sold up condition of producers. Prices for ultramarine blues are wholly nominal. Blacks are strong and some holders of rubber-makers' brands of lampblack refuse to shade 16c. per pound. English vermilion is strong at $2 to $2.10 per pound, with little actually offering.

LEAD PIGMENTS

There was an easier market for pig lead, but this failed to bring out any change in the lead pigments. Corroders say that business has not been up to normal in volume, but this is offset by restricted production. Sublimed white lead is held on the car-lot basis of 8½c. per pound. Orange mineral and litharge are also steady, but unchanged.

MAGNESIA

A good inquiry was reported for heavy calcined and carbonate of magnesia and prices ruled firm. Heavy calcined, in barrels, is held at 12½ to 13c. per pound in some directions, but better could have been done for this material in bags. Carbonate of magnesia is quoted at 12 to 13c. per pound, as to quantity and brand.

MINERAL RUBBER

There was a strong market for mineral rubber and prices at the close were wholly nominal. Asphaltum base rubber closed at $70 to $100 per ton. High cost of crude material was the bullish factor.

SULPHUR

Stocks on hand are moderate, due to the delay in receiving shipments of crude from primary points. Refined flour is nominally unchanged on the basis of $3.85 per 100 pounds, in barrels, car-lots.

Prices Current for Chemicals, Fillers, Colors, etc.

Acetone	lb.	*.38	@	.40
Accelerator, in drums	lb.	.85	@	1.00
Acids, Acetic, 56%	lb.	.14	@	.15
Carbolic, C. P.	lb.	.54	@	.56
Cresylic, 95%	gal.	1.10	@	1.15
Muriatic, 20 deg.	lb.	.03	@	.03¼
Acids, Muriatic, 22 deg.	lb.	.03¼	@	.03½
Nitric, 42 deg.	lb.	.09	@	.09½
Nitric, 40 deg.	lb.	.08½	@	.08¾
Sulphuric, 60 deg.	lb.	.02	@	.02½
Tartaric, crystals.	lb.	.78	@	.78½
Aluminum Flake	ton	28.00	@	30.00
Aniline oil, bulk basis	lb.	.26	@	.27
Antimony, metal spot	lb.	12.25	@	12.50
Oxide	lb.	15.00	@	17.00
Sulphuret, red	lb.	.25	@	.26
Sulphuret, golden	lb.	.26	@	.28
Sulphuret, crimson	lb.	.45	@	.50
Asbestos	ton	35.00	@	45.00
Asphaltum, Egyptian	lb.	.22	@	.28
Domestic	ton	20.00	@	26.00
Barium sulphate, technical	lb.	.04¼	@	.04¾
Sulphide	lb.	.07	@	.07½
Barytes, prime white imported	ton	*38.00	@	42.00
white, domestic	ton	36.00	@	38.00
off color, domestic	ton	23.00	@	26.00
Benzol, pure, bulk	gal.	.30	@	.35
Beta-naphthol, sublimed	lb.	.85	@	.90
unsublimed	lb	.65	@	.70
Blacks, Drop	lb.	.08	@	.15
Ivory	lb.	.16	@	.30
Carbon gas, cases	lb.	.22	@	.30
Lampblack, R. M.	lb.	.14	@	.16
Mineral blacks	ton	28.00	@	32.00
Blues, Prussian	lb.	*.85	@	1.25
Soluble	lb.	.82	@	1.10
Ultramarine	lb.	*20	@	.45
Browns, Umber, Turkey, burnt, powdered	lb.	.04	@	.05
American, burnt	lb.	.03½	@	.03¾
Cadmium sulphide, yellow	lb.	2.00	@	2.25
Carbon, bisulphide, bulk	lb.	.08	@	.08½
tetrachloride, drums	lb.	.15½	@	.16
Caustic Soda, 76@78%	lb.	.05	@	.05¼
Chalk, precipitated, extra light	lb.	.05	@	.05¾
light	lb.	.04¾	@	.05¼
heavy	lb.	.03¾	@	.04¼
China clay, domestic	ton	18.00	@	22.00
imported	ton	35.00	@	40.00
Fossil flour	lb.	.03¾	@	.05
Gilsonite	ton	55.00	@	60.00
Glue, extra white	lb.	.65	@	.75
medium	lb.	.28	@	.34
low grade		.15	@	.20
Glycerine, C. P. (drums)	lb.	.67½	@	.68
Graphite, flake (bbl.)	lb.	.18	@	.20
powdered (bbl.)	lb.	.13	@	.15
Green, chrome, R. M.	lb.	.14	@	.20
Ground glass (fine)	lb.	.03½	@	.04
Hexamethylene	lb.	1.15	@	1.17
Infusorial earth, powd'd.	ton	60.00	@	—
bolted	ton	70.00	@	—
Iron oxide, red, reduced grades	lb.	.05	@	.06
red, pure, bright	lb.	.12	@	.15
Lead, red oxide of	lb.	.10	@	.10½
sublimed blue	lb.	.08½	@	.09
white, basic carb.	lb.	.09	@	.09½
white basic sulph.	lb.	.08½	@	.09
Lime flour	lb.	.01½	@	.01¾
Litharge	lb.	.09½	@	.10
English	lb.	*.12	@	.13
sublimed	lb.	.09¼	@	.09¾

Lithopone, domestic	lb.	.07 @	.07½
Magnesia, carbonate	lb.	.12 @	.13
calcined, heavy	lb.	.12 @	—
calcined, light	lb.	.70 @	—
Magnesite, calcined, pwd.	ton	65.00 @	70.00
Mica, powdered	lb.	.03¾ @	.04¾
Mineral rubber (asphaltum base)	ton	70.00 @	100.00
Naphtha, motor gasoline, (steel bbls.)	gal.	.24 @	—
68 @ 70 degrees (steel bbls.)	gal.	.30 @	—
70 @ 72 degrees (steel bbls.)	gal.	.31 @	—
73 @ 76 degrees (steel bbls.)	gal.	.33 @	—
machine (wood bbls.)	gal.	.41 @	—
Oil corn, crude	cwt.	18.75 @	19.00
corn, refined	cwt.	21.47 @	21.67
linseed (bbl.)	gal.	1.54 @	1.56
palm, Lagos	lb.	*.35 @	.37
pine, yellow	gal.	.45 @	.46
rapeseed, refined	gal.	1.75 @	1.80
rapeseed, blown	gal.	1.80 @	1.85
rosin, first rectified	gal.	.42 @	.43
tar (commercial)	gal.	.30 @	.32
Orange mineral, American	lb.	.13 @	.13½
imported	lb.	*.15 @	.20
Paraphenylenediamine	lb.	3.00 @	3.50
Petrolatum, bbls., amber	lb.	.05¼ @	.05½
pale yellow	lb.	.05½ @	.06
Pine tar, kiln	bbl.	12.00 @	12.50
Pitch	bbl.	4.25 @	4.50
Plaster of paris	bbl.	2.00 @	2.50
Red, Tuscan	lb.	.24 @	.30
Indian (reduced)	lb.	.06½ @	.08½
Standard	lb.	.10 @	.15
Rosin (common to good) @ 280 lbs.	bbl.	6.10 @	6.20
Rotten stone, powdered	lb.	.03 @	.04½
Rubber, substitute, black	lb.	.13 @	.17
white	lb.	.15 @	.24
brown	lb.	.20 @	.25
Shellac, fine orange	lb.	.68 @	.69
T. N.	lb.	.63 @	—
Bleached ordinary	lb.	.59 @	.60
Bleached, bonedry	lb.	.70 @	.71
Silex (silica)	ton	28.00 @	36.00
Soapstone, powdered	ton	18.00 @	22.00
Starch, corn, powdered	lb.	4.96 @	5.19
Sulphur, crude	ton	*50.00 @	..
refined, flour, per 100-pounds, in bbls.		3.85 @	4.40
roll		3.70 @	4.15
commercial		3.25 @	3.50
Talc, American	ton	15.00 @	18.00
French	ton	*25.00 @	30.00
Toluol, pure, in drums	gal.	*5.00 @	5.25
Tripolite earth	ton	60.00 @	65.00
Turpentine, pure gum—spirits	gal.	.41 @	.42
wood	gal.	.39 @	.40
Venice, artificial	gal.	.12 @	.13
Vermilion, English	lb.	2.00 @	2.10
Wax, beeswax, crude yel.	lb.	.36 @	.38
ceresin, white	lb.	.18 @	.19
carnauba, No. 3	lb.	*.70 @	.72
Wax, Montan	lb.	*.35 @	.40
ozokerite, black	lb.	.75 @	.80
ozokerite, green	lb.	*.85 @	.95
Paraffin, refined, 118/120 M. P. (bbls.)	lb.	.12¾ @	.13
Wax, Paraffin, 123/125 M. P.	lb.	.13½ @	.13¾
128/130 M.P.	lb.	.13¾ @	.14
133/136 M.P.	lb.	.15 @	.15¼
Crude, 120/122 M.P.	lb.	.10¼ @	.10½
124/26 M.P.	lb.	.10½ @	.10¾
Whiting, commercial	cwt.	.95 @	1.05
Alba	cwt.	1.00 @	—
Whiting, Paris, white, American	cwt.	1.25 @	—
English cliffstone	cwt.	1.50 @	—
Yellow chrome	lb.	.24 @	.30
Zinc oxide, American process, horsehead brand	lb.	†.10¼ @	.10½
selected	lb.	†.10¾ @	.11
"XX red"	lb.	†.10¼ @	.10½
French process, green seal	lb.	†.13½ @	.13¾
red seal	lb.	†.13 @	.13¼
white seal	lb.	†.14 @	.14¼
Zinc substitutes	ton	35.00 @	40.00
Zinc, sulphide, pure	lb.	*.08 @	—

†Contract prices. *Nominal.

Crude Rubber

NEW YORK, April 10, 1918.

The market for crude rubber was irregular during the past two weeks, the tendency of prices for the most part being downward. The net changes for the period under review showed a decline in spot quotations for plantation rubber amounting to approximately 2c. per pound, but the Brazilian grades moved within narrow limits. Central American descriptions closed slightly higher. There was some buying on the part of manufacturers, covering the nearby positions, but at no time was the demand active. Dealers took hold of up-river fine in a moderate way.

Apprehension over the shipping situation as well as disquieting rumors regarding the Government's attitude in connection with a possible restriction of imports had a tendency to stiffen prices toward the close.

Each day brings news of ships being withdrawn from the Middle Eastern service for use in carrying war materials and there have recently been rumors of the Government's intention to reduce by 50 per cent the tonnage now used in carrying crude rubber. Talk of curtailing production in the East also had some influence upon the general situation. While nearly all the news was bullish in character, consumers could not be frightened into making heavy purchases. Most of them are carrying a good reserve of crude rubber, according to reports. Owing to the uncertainty surrounding the shipping situation importers were inclined to go easy on making offerings for future delivery. Several factors practically withdrew quotations covering the October-December period.

In London stocks are heavy, despite the shipping losses, and with trading inactive, prices show only insignificant changes from day to day. First latex pale crepe for prompt shipment closed at 28½d. per pound, with ribbed smoked sheets at 28d. per pound.

First latex pale crepe in the New York market settled at 60c. per pound, although it was intimated that 59½c. might be considered on a firm bid. First latex for April-June shipment closed at 57 @ 58c. per pound, with the July-September position steady at 56c. per pound. Ribbed smoked sheets on the spot closed at 61c., being higher than first latex pale crepe, but this grade for April-June shipment was offered at 57c., and for July-September at 55c. per pound. Amber crepe and clean brown crepe for shipment closed higher than a fortnight previous.

Para up-river fine closed at 61c. per pound, spot delivery, and 61½c. for nearby. The offerings of up-river fine were moderate. Up-river coarse settled at 34½ @ 35c. per pound. Consumers showed only routine interest in the medium and lower grades of Brazilian rubber. Centrals were in limited supply, imports being light, and for prime Corinto sellers were asking from 35½ to 36c. per pound. Guayule was steady at 28c. per pound, in sympathy with plantation rubber. Scarcity of freight room resulted in an advance in prices for East Indian gums.

		Spot.	April-June.	July-Sept.
Para—Up-river fine	lb.	61	60½	..
Up-river medium		55	..	..
Up-river coarse		34½	34½	..
Caucho ball		34	34	..
Islands fine		48	..	..
Islands coarse		24	24	..
Cameta		24	24	..
Maderia fine		63	..	..
Ceylons-Smoked sheets, ribbed		61	57	55
Smokers sheets, plain		59	56	54
First latex pale crepe		60	58	56
Amber crepe		52	50	49
Clean brown crepe		50	48	47
Centrals—Corinto, prime		36	35½	..
Esmeralda, prime		35½	35	..
Mexican scrap		34	..	..
Balata sheets		*82	..	..
Balata, block Panama		53	..	..
Guayule		28	..	..
Africans—Rio Nunez, string		*65	..	..
Massai, red		*50	..	..
East Indian Pontianak		13½	..	..
Palembang		14	..	..

* Nominal.

Scrap Rubber

NEW YORK, April 10, 1918.

The scrap rubber market is still very quiet and no special features have been presented since our last report.

The following prices were paid for scrap rubber recently delivered at the reclaiming mill:

Boots and shoes			9¼
Arctics, trimmed			7¼
Arctics, untrimmed			6
Tires—Automobile	4¾	@	5
Bicycles, pneumatic			5
Mixed hose	1¾	@	2
Air brake			5¾
Inner tubes, No. 1			22¼
Inner tubes, No. 2	11	@	11½
Inner tubes, red	11	@	11½

Among the Tire Dealers

The New York Tire Service, Inc., New York City, has opened a large and well-equipped store on Broadway at 66th Street. United States tires of all styles are handled exclusively.

The Wright Tire & Vulcanizing Co. is the name of a new company which is preparing to take up a line of automobile tire work in South Milwaukee, Wis. The company is planning to take partly worn tires and by combining them make serviceable tires out of two that will add much to their remaining mileage.

The F. & H. Tire & Supply Co. has moved from 1922 Euclid Avenue to 1921 Euclid Avenue, Cleveland, Ohio.

The Chicago Tire & Supply Co. has leased the store at 404 Elm Street, Rockford, Ill. Miller A. Crane is president of the company and R. M. Adams will have charge.

The Curtiss-Detroit Sales Co., Detroit, Mich., has opened here as a branch of the Curtiss Tire & Rubber Co., Muskegon, Mich.

E. L. Porter, Hardtner, Kan., has bought the garage of the Thompson Auto Co.

The Varnum Tire Service, Ausuta, Kan., was recently opened with F. T. Colgan as manager.

J. L. Baron, Cameron, Mo., is planning to establish a vulcanizing department.

H. Hutchinson, Haskell, Tex., has bought the Haskell Rubber Co. from W. H. Starr.

Wayne N. Pier, Sac City, Iowa, has opened a branch there for the Para Tire Co.

Mowrey & Hutchinson have opened a new vulcanizing plant at 429 South State Street, Salt Lage City, Utah.

The McNaul Tire Co. of California has opened salesrooms at 500 Van Ness Avenue, San Francisco, Cal.

L. C. Sleep has opened a tire store and vulcanizing plant at 5540 College Avenue, Oakland, Cal., under the style of Rockridge Tire Co.

Arbuthnot's Tire Shop has opened a vulcanizing plant at 168 Twelfth Street, Oakland, Cal.

The Toliver Tube & Tire Co. has opened salesrooms at 2551 Broadway, Oakland, Cal.

Kelly's Tire Shop has opened salesrooms at MacDonald Avenue, Richmond, Cal.

H. A. Adams has become sole owner of the Steam Vulcanizing Works, 4191 Broadway, Oakland, Cal.

The Power Rubber Co. of San Francisco has opened a branch at 1213 MacDonald Avenue, Richmond, Cal.

Edward Holm and Verner Olson, Lindsburg, Kan., have bought the blow-out patch business of Nygren Bros. The equipment is now being moved from the factory in East Lindsburg to the building occupied by the Lindsburg Tire Repair Co.

Dividends Declared

Pennsylvania Rubber Co., Pittsburgh, quarterly of 1¾ per cent on preferred and 1½ per cent on common, payable March 30.

The Apsley Rubber Co., Hudson, Mass., regular semi-annual dividend of 2 per cent on common stock, payable April 1, to stock of record March 30.

Canadian General Elevtric Co., Ltd., Toronto, Ontario, Canada, has declared its quarterly dividend of 2 per cent on common stock and its semi-annual dividend of 3½ per cent on preferred stock, both payable April on stock of record March 15.

Corn Products Refining Co., New York City regular quarterly dividend of 1¾ per cent on preferred stock, payable April 15 to stock of record April 1.

The Goodyear Tire & Rubber Co., Akron, Ohio, has declared its regular quarterly dividend of 1¾ per cent on preferred stock, payable April 1 on stock of record March 15.

The Mason Tire & Rubber Co., Kent, Ohio, has declared a quarterly dividend of 1¾ per cent on its preferred stock, payable April 1 to stock of record March 20.

The Mohawk Rubber Co., Akron, Ohio, has declared a 20 per cent stock dividend out of the $1,000,000 treasury stock which it recently added to its capitalization, besides 2½ per cent cash dividend. Both dividends are payable April 1.

The Republic Rubber Corp. and the Republic Rubber Co., Youngstown, Ohio, paid their regular quarterly dividend of 1¾ per cent on preferred stock on March 1 to stock of record February 20.

American Rubber Patents

ISSUED MARCH 12, 1918.

1,258,717—To Charles W. Steele, Akron, Ohio, assignor to the Firestone Tire & Rubber Co., Akron, Ohio, a corporation of Ohio. Tire-stripping machine.

1,258,780—To Ida Lena Joslyn, Terre Haute, Ind. Tire armor or protector.

1,258,823—To Walter L. Smith, New York, N. Y. Tire chain.

1,258,863—To Oscar E. Brown, Buffalo, N. Y. Non-skid vehicle tire.

1,258,878—To John F. Davis, Freeport, Maine. Shoe sole.

1,258,879—To Harry J. Dawson, Birmingham, Ala. Tire.

1,258,968—To Joseph S. Williams, Riverton, N. J. Resilient tire construction and wheel equipment.

1,259,108—To Russell Blaine Kepp, Neoga, Ill. Wheel rim for pneumatic tires.

1,259,190—To Charles B. Woodworth, Niagara Falls, N. Y. Antiskid device for vehicle wheels.

1,259,212—To Wallace H. Copping, Pasadena, Cal. Tire-rim tool.

1,259,229—To John V. Hagstrom, Hadlock, Wash. Ventilator for footwear.

1,259,256—To Peter J. Maillard, Jeanerette, La. Tire for automobiles.

1,259,289—To Irvin R. Renner, Akron, Ohio, assignor to the B. F. Goodrich Co., New York. Cord tire and method of making same.

1,259,290—To Edgar T. Reynolds, Brooklyn, N. Y. Vehicle-wheel tire filler.

1,259,308—To John Soderquist, Beloit, Wis. Tire-armor.

1,259,425—To William Mautner, New York. Tire protector.

1,259,433—To William J. Nesbitt, Los Angeles, Cal. Heel cutter.

1,259,428—To Alfred Paulson, Geneva, N. Y., assignor to National Wire Wheel Works, Inc., Geneva, N. Y. Locking device for demountable rims.

ISSUED MARCH 19, 1918

1,259,508—To Willis A. Gibbons, Flushing, N. Y., assignor to The India Rubber Co., a corporation of New Jersey. Process for producing pigmented rubbers and products obtained thereby.

1,259,512—To Charles J. Hellings, Los Angeles, Cal. Insulator.

1,259,655—To Norman Mooney and Frank Mooney, San Francisco, Cal. Resilient tire.

1,259,689—To Charles H. Waterman, Priest River, Idaho, assignor of one-half to Dean A. Gregory, Priest River, Idaho. Anti-slipping device for boots and shoes.

1,259,734—To Frank E. Harvey, White Hall, Ill. Resilient tire.

1,259,748—To Benjamin F. Johnston and Winfred R. Mowbray, Ogden, Utah. Tire.

1,259,776—To Walter J. Putnam, Deposit, N. Y. Tire chain and armor.

1,259,793—To Edward Mark Slocum, Medan, Sumatra, Dutch East Indies, assignor to General Rubber Co., a corporation of New Jersey. Rubber coagulum or similar material and process for preparation of the same from latex for vulcanization.

1,259,794—To Edward Mark Slocum, Medan, Sumatra, Dutch East Indies, assignor to General Rubber Co., a corporation of New Jersey. Rubber coagulum or similar material and process for the preparation of same for vulcanization.

1,259,806—To Frank J. Tone, Niagara Falls, N. Y., assignor to the Carborundum Co., Niagara Falls, N. Y., a corporation of Pennsylvania. Plastic composition.

1,259,814—To Winfield S. Watson, Cleveland, Ohio. Wheel-rim.

1,259,834—To James A. Cameron, Brooklyn, and John A. Hawkes, New York City, assignor to Cameron Machine Co., Brooklyn, N. Y. Slitting and rewinding machine.

1,259,856—To Edward Haas, San Antonio, Tex. Pneumatic-tire protector.

1,259,882—To Wilfred Lewis, Haverford, Pa., assignor to The Tabor Mfg. Co., Philadelphia., Pa. Molding machine.

1,259,883—To Wilfred Lewis, Haverford, Pa., assignor to The Tabor Mfg. Co., Philadelphia, Pa. Molding machine.

1,259,974—To Victor N. Gingrich, Hershey, Pa. Detachable rim.

1,259,066—To Claud L. Sackrider, Battle Creek, Mich. Tire-spring.

1,260,155—To George W. Deatrich, Sr., Pottsville, Pa. Vehicle tire.

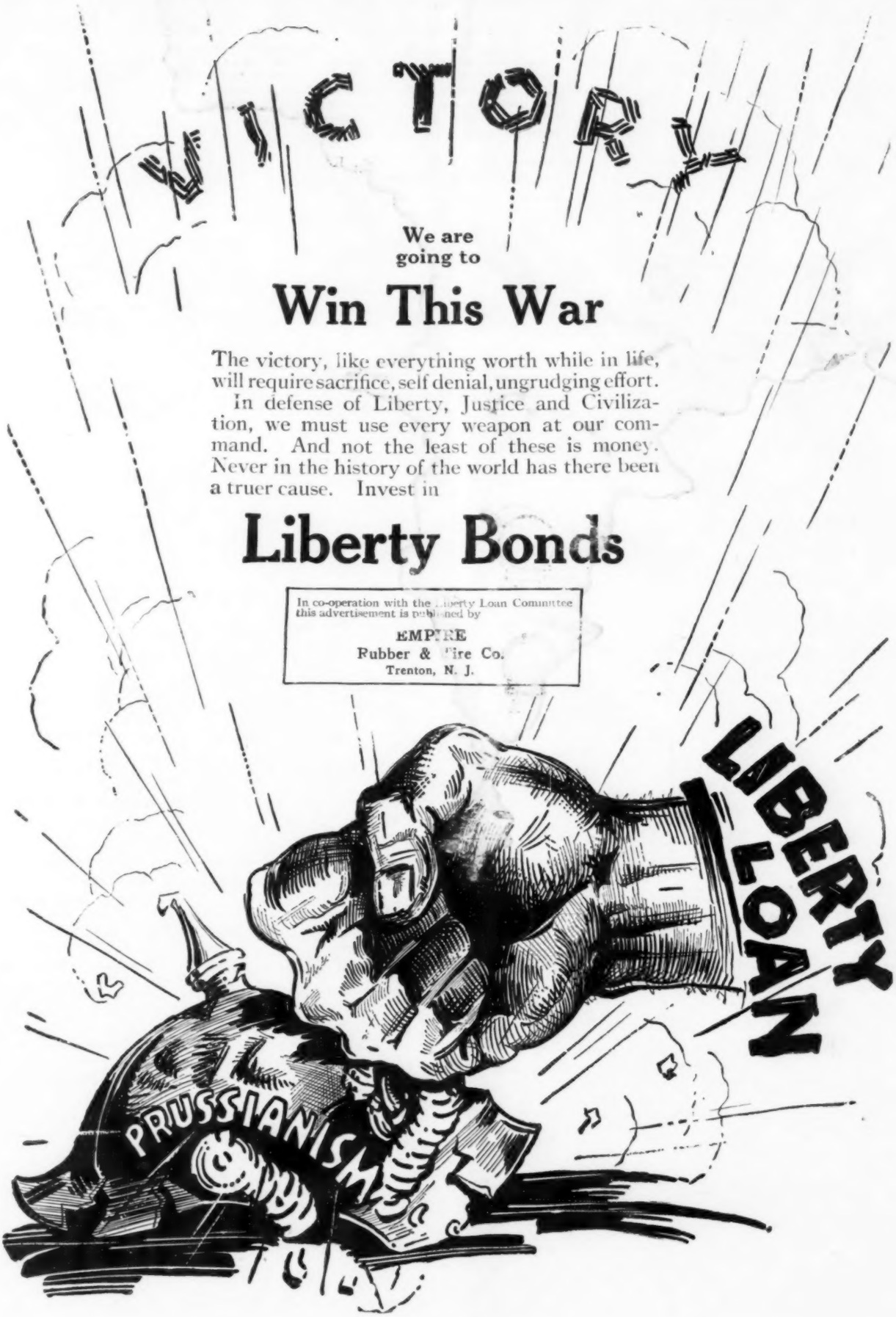
1,260,186—To Charles Simeon Goodfellow, Jersey City. Non-puncturable inner lining for automobile tires.

1,260,191—To Gustaf A. Hagstrom, Kansas City, Mo. Tire-thread-making machine.

1,260,244—To William J. Nesbitt, Los Angeles, Cal. Heel-cutting apparatus.

1,260,275—To John A. McTaggart, Philadelphia, Pa. Mandrel for making inner tubes for pneumatic tires.

1,260,284—To Edward Bennet, Momence, Ill. Spring-cushioned-tired wheel.



We are going to

Win This War

The victory, like everything worth while in life, will require sacrifice, self denial, ungrudging effort.

In defense of Liberty, Justice and Civilization, we must use every weapon at our command. And not the least of these is money. Never in the history of the world has there been a truer cause. Invest in

Liberty Bonds

In co-operation with the Liberty Loan Committee this advertisement is published by

EMPIRE
Rubber & Tire Co.
Trenton, N. J.

Classified Buyers' Index To Rubber Factory Equipment

Below is printed an alphabetical list of the principal machinery and other equipment used in rubber factories, compiled from information supplied by the manufacturers. The key symbols placed after the items refer to the names of the manufacturers that make them, as shown in the list of Manufacturers of Rubber Factory Equipment, that is printed elsewhere on this page.

Accumulators, A11, B22, F2, T31, W31.
Autoclaves, A11, B31, D15, E11, S55.

Balances, B7, E11, S19, T27.
Bins, Stock, O3.
Blocks, Pillow, A11, F3, T43.
Blowers, Tube Splicing, G3.
Boilers, Steam, S31.
Boosters and Exhausters, A3.
Boxes, Compound, O3.
Brands, Aluminum, D19.
Brakes, T43.
Brushes, O7.
Buckets, D27.

Cages, D27.
Calenders, A11, F3, S31, T43.
Calenders, Embossing, F3, H11, T19, T43.
Cars, Shoe, O3.
Carton Filling Machines, W23.
Carton Making Machines, W23.
Castings, A11, B3, B23, B31, D27, F3, M3, T31, T42, W31.
Chemical Apparatus, B31.
Chucks, S47.
Clutches, Brake, F3, T43.
Clutches, Friction, F3.
Clutches, Magnetic, F3, T43.
Compressors, Air, S31, T31.
Condensers, D15, S55, T31.
Conveyors, D27.
Cores, Tire, A11, B3, T31, J3.
Couplings, Power, T43.
Crackers, A11, F3, T43.
Cranes, D27.
Cutters, Baby Carriage Tire, W23.
Cutters, Band, A11, E3, H31, R7.
Cutters, Bias, W23.
Cutters, Duck Plug, W23.
Cutters, Gaskets, A11, H11, H31.
Cutters, Raw Stock, W23.
Cutters, Rubber Stock, H19, H31, R7, T11.
Cutters, Scrap, A3, T11.
Cutters, Strip, E3, F3.
Cutters, Tubing, W23.

Devulcanizers, B11, D15.
Dies, A11, D19, H11, D19.
Die Sinking, A11, D19, H11.
Dies, Cutting, D19, H11.
Digestors, D15.
Dipping Machines, O3.
Doubling Machines, F3, T43.
Doubling Machines, Fabric, T17.
Drills, D27.
Drives, A11, D27, F3, T43.
Drives, Chain, D27, F3, T43.
Drives, Motor, A11, D27, F3, T43.
Drums, Bead, A11, T31.
Drums, Tire Machine, G3.
Drums, Tread, A11.
Dryers, A35, B31, D15, H27, S31, S55.
Dryers, Fabric, C51, D15, T19, T43.
Dryers, Rubber, D15.
Dryers, Vacuum, D15, S55.
Dynamometers, S19.

Engines, Steam, S31.
Engraving Machines, Hard Rubber, A11.
Experimental Outfits, A11, B3, D15, D19, E11, F3, T43.
Extractors, E11.

Fittings, Hydraulic, A11, B23.
Fittings, Water, A11.
Folders, Belt, F3.
Forms, Dipping, D19.

Gages, Pressure, B23, S7.
Gages, Recording, S7.
Gages, Thickness, H11.
Gears, A11, F3, M23, T43.
Governors, Pump, M15.
Grinders, A11, F3, S47, T43.
Grinders, Hard Rubber Dust, A3, A11, F3, R3, T43.

Hammers, Steam, B31.
Hangars, D27, M27.
Hoists, D27.
Holders, Form, O3.
Hooks, Tire, D27.
Hose Machines, F3, R27.
Hydraulic Machinery, A11, B23, F3, H19, T43, W31.
Hydrometers, T7, T27.
Ice Machines and Equipment, D27.
Impregnators, B31, D15, F3, S55.
Instruments, Recording, S7, S19.
Insulating Machines, R27.
Joints, Expansion, A11, B23.
Kettles, A11, B31, D7, D15, S31, S55.
Knives, H31, J7, R7, T43.
Knives, Calender, R7.
Knives, Jar Ring, R7.
Knives, Mill, R7, J7.
Knives, Tapping, R7, J7.
Laboratory Apparatus, D7, D15, E11, F3, R27, S15, S19, T27.
Ladders, Rolling, M27.
Lathes, Hard Rubber, A11, S47.
Lathes, Jar Ring, A11, T31, W23.
Lathes, Wrapping, A11.
Lockers, O3.
Looms, Hose, R27.

Magnets, D23.
Mandrels, A11.
Markers, Shoe, H11.
Microscopes, E11, T27.
Mills, Grinding, A3, A11, E11, F3, R3, D7, T43.
Mills, Mixing, A11, D7, F3, T43, W7.
Mills, Paint, D7, R3.
Mills, Washing, A11, F3, T43, W7.
Mixers, Solution, D7, W7.
Molds, Hose, A11.
Molds, Mechanical, A11, D19, H11, H19, M3, T15, J3, D19.
Molds, Sole and Heel, D19, J3, D19.
Molds, Sundries, D19, H11, J3, D19.
Molds, Syringe Bag, D19, J3, D19.
Molds, Tire, A11, B3, T31, J3, D19.
Molds, Toy, D19, J3, D19.
Molds, Water Bottle, D19, J3, D19.
Motors, D27, E11, T43.
Name Plates, H11.

Pattern Making, A11, M3, T43.
Percolators, D7, D15, E11, S55.
Plaiters, W23.
Plantation Machinery, F3, T43.
Plants, Aniline Oil, D15.
Presses, Baling, B23.
Presses, Bead, A11, B23, F3, W31.
Presses, Belting, A11, B22, F3, T43, W31.
Presses, Blocking, B23.
Presses, Filter, A3.
Presses, Fusing, A11, B23, T43, W31.
Presses, Hand, A11, B23, E11, F3, H19.
Presses, Heater, A11, B11, F3, W31.
Presses, Hydraulic, A11, B23, F3, H19, T19, T31, T43, W23.
Presses, Plate, A11, B23, F3, W31.
Presses, Sheeting, A11, B23, F3.
Presses, Shoddy, A35.
Presses, Tire Setting, A11, B23, W31.
Presses, Vulcanizing, A11, B11, B23, F3, T31, W31.
Pulverizers, A3, D7, E11, R3.
Pumps, A11, A11, E11, M27, S31, T31.
Pumps, Centrifugal, T31, W31.
Pumps, Hydraulic Pressure, A11, B23, S31, T31.
Pumps, Spray, M27.
Pumps, Vacuum, A3, B31, D15, E11, S31, S55, T31.

Racks, Drying, D7, D27.
Racks, Shoe Car, H11, O3.
Racks, Tire, D7, D27, O3.
Railways, Industrial, D27.
Reclaiming Machinery, B11, D7, F3, R27, S55, T43.
Refiners, A11, F3, T43.
Regulators, Damper, M15.
Regulators, Pressure, D3, M15, T7.
Regulators, Pump, M15.
Repair Equipment, Tire, B11.
Riveters, W31.
Rollers, Hand, B3, H11, H19.
Rollers, Strip, B3.
Rolls, A11, F3, T43.
Rolls, Chilled, A11, T43.
Rolls, Cooler, F3.
Rolls, Engraved, F3, H11.
Rolls, Mill, A11, F3, T43.
Rolls, Sand, A11, F3, T43.
Rolls, Steel, F3.
Rolls, Wood, G3.
Safety Appliances, D27, F3.
Scales, B7, D27.
Screens, D7, O3.
Screw-Downs, Calender, A11, T43.
Separators, Air, R3.
Separators, Magnetic, D23.
Separators, Water, A35.
Shafting, A11, D27, F3, T43.
Shears, Hand, J7.
Shears, Power, F3.
Shells, Belting, G3, C55.
Shells, Calender, C55, O3.
Shells, Stock, G3, C55.
Sifters, D7.
Sifters, Brush, D7.
Slitting Machines, F3.
Skivers, J7, R7.
Solvent Recovery Apparatus, B31, D15, S55.
Special Machinery, J3.
Spreaders, A11, F3, T43.
Sprockets, D27, M23, T43.
Stamps, Steel, D19, H11, D19.
Stands, Tire, A11, B3, T31.
Starters, Motor, T43.
Sticks, Shoe, H11, O3.
Stitchers, B3, H11.
Stops, Safety, D3, D27, F3, T43.
Strainers, A11, R27.
Stretchers, Belt, A11, F3, T19, T43.
Stretchers, Hydraulic, A11, F3, T43.
Switches, Electrical, D27, T43.

Tables, Calender, O3.
Tables, Cooling, D27, O3.
Tables, Tire Conveying, O3.
Tanks, Acid, B11, D15, S55, T19.
Tanks, Soaking, B11, S55, T31.
Testing Machines, B11, S19.
Thermometers, E11, S7, T7, T27.
Tire Making Machines, B3, R27, T31.
Tire Tread Machines, R27.
Tire Wrapping Machines, Cloth, T15, T31, T43.
Tools, Fountain Pen, S47.
Tools, Rubber Workers', H11, H31.
Tramways, Overhead, D27, O3.
Transmissions, A11, D27, M23, T43.
Traps, Steam, D3.
Trimmers, W23.
Trolleys, D27.
Trucks, Industrial, D7, D27.
Tube Wrapping Machines, A11, T43.
Tubing Machines, A11, R27.

Valves, Float, M15.
Valves, Hydraulic, B23, D27, T31, W31.
Valves, Reducing, D3, D27, M15.
Vulcanizers, A11, B11, D15, T31, W31.

Washers, A11, D15, F3, T43.
Washers, Beater, T43.
Washers, Tub, D7, F3, T43.
Wheels, Buffing, O7.
Wheels, Roller Bearing, D27.
Wire Drawing Machines, T43.
Wiring Machine, Hose, A11.
Wrapping Machines, A11, T15, T31.

Manufacturers of Rubber Factory Equipment

THE RUBBER AGE AND TIRE NEWS will gladly supply information regarding the addresses and products of the following manufacturers of Rubber Factory Equipment.
The advertisements of concerns whose names appear in bold face type will be found in this issue of THE RUBBER AGE AND TIRE NEWS.

A 3—Abbe Engineering Co.
A 7—Adams, John J.
A 11—Adamson Machine Co.
A 15—Adamson Mfg. Co.
A 19—Air Utilities Co., Inc.
A 23—Akron Rubber Mold & Machine Co. See Advertisement on Page 48.
A 27—Allen Machinery Co.
A 31—Alvey-Ferguson Co.
A 35—American Process Co.
A 39—American Rotary Valve Co.
A 43—American Tool & Machine Co.
A 47—Arthur Vulvanizing Machine Co.
B 3—Banner Machinery Co.
B 7—Becker, Christian, Inc.
B 11—Biggs Boiler Works Co.
B 15—Birmingham Iron Foundry. See Advertisement on Page 6.
B 19—Bonnett Co.
B 23—Boomer and Boschert Press Co. See Advertisement on Page 48.
B 27—Bristol Co.
B 31—Buffalo Foundry & Machine Co.
C 3—Cameron Machine Co.
C 7—Cell Drier Machine Co.
C 11—Champion Shoe Machine Co.
C 15—Chernack Mfg. Co.
C 19—Chicago Mold & Machinery Co.
C 23—Edred W. Clark.
C 27—Colonial Sign & Insulator Co.
C 31—Continental Rubber Works.
C 35—Cox, Geo. P., Last Co.
C 39—Crane Co.
C 43—Curtis & Marble Machine Co.
C 47—Cutler-Hammer Clutch Co.
C 51—Cutter, G. A., Sales Agent.
C 55—Cylinder Mfg. Co.
D 3—Davis, G. M., Regulator Co.
D 7—Day, J. H., Co.
D 11—De Mattia Bros.
D 15—Devine, J. P., Co.
D 19—Die Sinking & Machine Co.
D 23—Dings Magnetic Separator Co.
D 27—Duncan, J., Co.
E 3—Eastman Machine Co.
E 7—Eggers, William, & Sons.
E 11—Elmer & Amend.
E 15—Esterline Co.
F 3—Farrel Foundry & Machine Co. See Advertisement on Page 2.
F 7—Ford Chain Block & Mfg. Co.
G 3—Gammeter, W. F. See Advertisement on Page 48.
G 7—Garvin Machine Co.
G 11—General Electric Co.
G 15—Goodnow, L. H., Foundry Co.
H 3—Hartford Special Machinery Co.
H 7—Haywood Tire & Equipment Co.
H 11—Hoggson & Pettis Mfg. Co. See Advertisement on Page 43.
H 15—Hollander & Johnson.
H 19—Holmes Bros.
H 23—Housatonic Machine & Tool Co. See Advertisement on Page 50.
H 27—Hunter Dry Kiln Co. See Advertisement on Page 45.
H 31—Hyde Manufacturing Co. See Advertisement on Page 45.
J 3—Jones & Kuhlke. See Advertisement on Page 50.
J 7—Judson Cutlery Co.
K 3—Knott, L. E., Apparatus Co.
K 7—Kohl Mfg. Co.
L 3—Lander Last Co.
L 7—Landis Machine Co.
L 11—Lenz & Naumann.
L 15—Link Belt Co.
L 19—Lloyd, John, Co.
L 23—Lobdell Car Wheel Co.

Manufacturers of Rubber Factory Equipment—Continued

M 3—McFarland Foundry & Machine Co.
M 7—McGrory, Philip.
M 11—Mahlow & Wykoff.
M 15—Mason Regulator Co.
M 19—Miller, Chas. E.
M 23—Morse Chain Co.
M 27—Myers, F. E., & Bro.
N 3—New England Butt Co.
N 7—Norton, M., & Co.
O 3—Ornamental Iron Works Co.
O 7—Osborn Mfg. Co.
P 3—Pierce Wrapping Machine Co.
R 3—Raymond Bros., Impact Pulverizer Co.
R 7—Richard Co., Inc., Stephen.
R 11—Riehle Bros., Testing Machine Co.
R 19—Ross, Charles, & Son Co.
R 23—Rossman, Roy G.
R 27—Royle, John, & Son.
S 3—Sargent, E. E., & Co.
S 7—Schaefer & Budenberg Mfg. Co.
S 11—Schuchardt & Schutte.
S 15—Scientific Materials Co.
S 19—Scott, Henry L., & Co.
S 23—Sessions, J. H., & Sons.
S 27—Shaler, G. A.
S 31—Shartle Machine Co.
S 35—Shoe Hardware Co.
S 39—Singer Sewing Machine Co.
S 43—Smith-Backmann Machine Co.
S 47—Smith Co., James M.
S 51—Southwark Foundry & Machine Co.
S 55—Stokes, F. J., Machine Co.
S 59—Summit China Co.
T 3—Tagliabue Mfg. Co.
T 7—Taylor Instrument Co.
T 11—Taylor, Stiles & Co.
T 15—Terkelsen & Wennberg.
T 19—Textile Finishing Machine Co. See Advertisement on Page 49.
T 23—Textile Machine Co.
T 27—Thomas Co., Arthur H.
T 31—Thropp's, John E., Sons Co.
T 35—Trefethen, F. L.
T 39—Troemner, Henry.
T 43—Turner, Vaughn & Taylor Co. See Advertisement on Page 56.
U 3—Utility Mfg. Co.
V 3—Venn, Frank.
W 7—Werner & Pfleiderer Co.
W 11—Westinghouse Electric Mfg. Co.
W 15—Williams Foundry & Machine Co.
W 19—Williams Patent Crusher & Pulverizer Co.
W 23—Wills, Arthur J.
W 27—Wolff Co.
W 31—Wood, R. D., & Co.
W 35—Work, Joseph W.

OBALSKI & SWEENEY, Inc.

CRUDE RUBBER

AND KINDRED PRODUCTS

Importers and Traders Building **59-61 Pearl Street**

NEW YORK

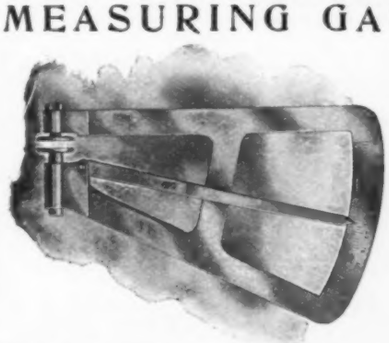
A Rub-Steel Valve

CHOSEN FROM OUR *FOUR GRADES* INSURES TO *YOU*—

Closest **Rubber** Seating with **Steel** support from inside the disc.
A Union of the two elements that defies separation for all time.
Positive immunity from Dishing, Slippage, Cracking or Crumbling.
Steady, smooth action in greatest pressure—highest heat.
A vast economy through LONGEST SERVICE.

VOORHEES RUBBER MFG. CO. 18-50 Bostwick Ave., JERSEY CITY, NEW JERSEY

MEASURING GAUGES



FOR MEASURING SHEET RUBBER

HOME OF

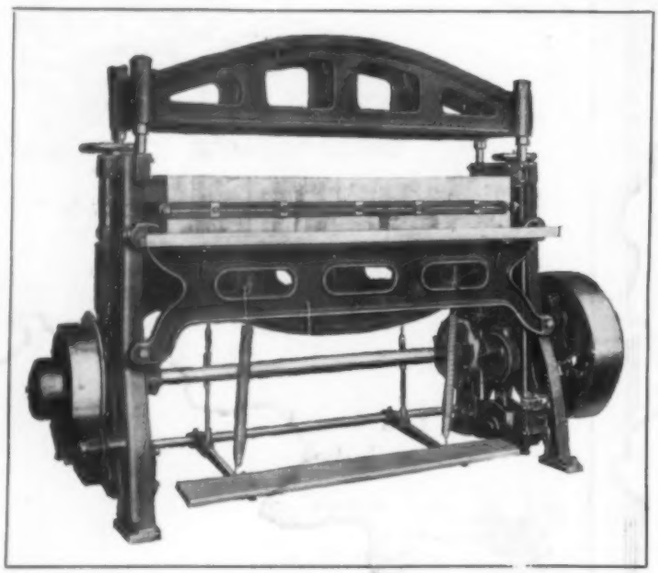
BALL BEARING STITCHERS

AND ROLLERS FOR TIRE & SHOE MANUFACTURING

TOOLS OF QUALITY

(ESTABLISHED IN 1849) THE HOGGSON & PETTIS MFG. CO. NEW HAVEN, CONN., U. S. A.

Gearless Sole-Cutting Machines



These machines are of a type that are being used very extensively in the different trades where dies are employed for cutting out parts from Leather, Rubber (cured and uncured), Rubberized Duck, Linings, Friction Cloth and all other materials used in the making of Canvas or Arctic footwear.

They are manufactured in several sizes and styles to meet the various requirements. Their construction is substantial and reliable throughout.

Further particulars and printed matter will be promptly furnished upon request.

UNITED SHOE MACHINERY CORPORATION

Albany Building *General Department* **BOSTON, MASS.**

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, of THE RUBBER AGE AND TIRE NEWS, published semi-monthly at New York, N. Y., for April 1, 1918.

State of New York } ss.
County of New York }

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared George Newbold, who, having been duly sworn according to law, deposes and says that he is the Business Manager of THE RUBBER AGE AND TIRE NEWS and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Gardner-Moffat Company, Inc., 120 West 32nd St., New York, N. Y.; Editor, H. M. Williams, 120 West 32nd St., New York, N. Y.; Managing Editor, H. M. Williams, 120 West 32nd St., New York, N. Y.; Business Manager, George Newbold, 120 West 32nd St., New York, N. Y.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

The Gardner-Moffat Company, Inc., 120 West 32nd St., New York, N. Y.; William I. Seaman, Trustee for Lester D. Gardner, 120 West 32nd St., New York, N. Y.; William I. Seaman, 120 West 32nd St., New York, N. Y.; William D. Moffat, 120 West 32nd St., New York, N. Y.; Margaret K. Gardner, 120 West 32nd St., New York, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

GEORGE NEWBOLD.

Sworn to and subscribed before me this eighteenth day of March, 1918.
[SEAL.] MANGHILD A. LINDBLOM.
My commission expires March 30, 1918.

Solid Tires for Trucks

The large increase in the use of heavy-duty trucks due to the war and railroad congestion has created an unusually heavy demand for Solid Truck Tires. Companies making this style Tire are very busy and indications point to a shortage soon.

I can be of valuable assistance to anyone in this field, as I have just completed an up-to-date factory. My method of attaching the base to the steel-rim and of combining the wearing portion to the hard rubber base are exceptionally effective. Tires made from my formulas and methods have gone over 18,000 miles and are still running.

I can save you a lot of costly experimenting.

WILMER DUNBAR

Consulting Rubber Engineer **Greensburg, Pa.**

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